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Studio Pedagogy as a Method in Textile and Fashion Design Education

at the Aalto University School of Art, Design and Architecture
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Tiivistelmä – Abstrakt – Abstract

Tutkielmassani selvitetään opetusmenetelmiä, jotka ovat tyypillisiä Aalto-yliopiston Taiteiden ja suunnittelun korkeakoulun Muotoilun laitokseen kuuluvassa Fashion, Clothing and Textile Design –koulutusohjelmassa. Tarkoituksena on kartoittaa erityisesti studio-pedagogisia elementtejä tekstiilisuunnittelun opetuksessa, sekä kuvailla valittujen menetelmien taustalla vaikuttavia opetusnäkemyksiä. Lisäksi kootaan yhteen keskeiset opetuksen järjestämiseen vaikuttavat tekijät. Studio-pedagogiikkaa lähestytään teoreettisesti R. Keith Sawyerin (2018) *the studio model* –mallin avulla, joka perustuu tutkimukseen luovuuden opettamisesta ja oppimisesta taide- ja suunnittelukouluissa. Tutkielmassa tarkastellaan myös näkemyksiä materiaalisuuden ja kehollisuuden roolista suunnitteluopetuksen osana. Tutkimuksellinen lähestymistapa on etnografinen ja tutkimusta varten haastateltiin viittä koulutusohjelman parissa työskentelevää asiantuntijaa. Teemahaastatteluiden lisäksi suoritettiin kaksi observointia, kudonnan ja painokankaiden studioissa. Kerätty aineisto analysoitiin kvalitatiivisen sisällönanalyysin keinoin, teoriaa osittain hyödyntäen.

Tutkimuksen tulokset näyttävät opiskelijoiden luovaan prosessiin tähtäämisen yhdeksi keskeisimmäksi päämääräksi opetuksessa. Luovuuteen opitaan tehtävien tai projektien rajoitusten ja vapauden tasapainon avulla. Tehtävänannot mahdollistavat opiskelijoille ilmaisullisen vapauden, mutta sisältävät aina myös tarkkaan määritellyt vaatimukset valmistukseen liittyvien teknisten ratkaisujen ymmärtämisestä ja esittämisestä. Oppiminen nähdään tehokkaana, kun tehtävien tekninen ja taiteellinen puoli yhdistyvät prosessin alusta alkaen, materiaalien työstämisen ja tutkimisen avulla. Suunnitteluprosessin yksi tärkeimpiä yksityiskohtia on luovan prosessin aloittaminen yksilöllisen, visuaalisen taustatutkimuksen tekemisellä, jonka avulla luotu konseptisuunnitelma nähdään keskeisenä suunnannäyttäjänä materiaalikokeiluja ja kokoelmaa työstettäessä. Työpajamestarit ovat tärkeässä roolissa päivittäisen studiotyöskentelyn sujuvuuden takaajina. Studiopedagogiikka on opetuksen järjestäjän näkökulmasta monitahoinen kokonaisuus, ja kurssien intensiivinen, tiivistahtinen periodiopetus asettaa tiukat raamit studioiden ja opetuksen toimivuudelle. Studiot ovat avoimia kaikille Muotoilun laitoksella opiskeleville. Avoimuuden ja opiskelijaryhmien erilaisuuden myötä suunnitteluajattelu laajenee, ja oppimisen sosiaalinen aspekti nähdään yleisesti luovuutta ja oppimisprosessia tehostavana.

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studio pedagogy, creativity, teaching, design-learning

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Tiivistelmä – Abstrakt – Abstract

Purpose of this masters's thesis is to find and describe pedagogical elements of the studio practices at the Faculty of Fashion, Clothing and Textile, at the Aalto University School of Art, Design and Architecture. The focus is on renewed textile design education, especially on the weave studio practices. Another aim is to examine the pedagogical views behind the main findings. The studio pedagogy is theoretically approached by R. Keith Sawyer's (2018) research and *the studio model*, which is a cultural model of teaching and learning at the schools of art and design. Another theoretical frame is conducted from the field of materiality and the theory of embodied cognition, which can explain the importance of material explorations. The studio pedagogy has indicated to have remarkable benefits in design education by mastering creativity, and it could offer potential ideas extended to other school levels as well. In present study, I also summon an overview about the requirements needed from the operational unit, as offering studio pedagogy needs special arrangements. The ethnographic data is collected from the semi-structured theme interviews of the five professionals, deeply involved in design pedagogy at the faculty. In addition, two short observation phases were conducted at the weave studio and at the fabric print studio. The qualitative content analysis is done as theory and data-driven analysis.

According to the results, one of the most distinct pedagogical element are the design assignments, that are based on the students' individual concept and visual research, before going further with the material explorations at the studios. Lots of time and effort is put on this very early phase of the design process, and it is seen to lead originality and innovative results. The assignments include always both the artistic and technical sides, which is found effective and convenient way of learning. Processes such as creative and learning processes are seen the most important learning outcome. Preparing students to become design professionals, project management skills are practiced with advanced courses including lots of independent work. The Woven Fabric Studio courses are often intensive few week modules, which are available also for students from other faculties. Studio masters' role is crucial at daily studio work. In addition to proper learning environments and up-to-date facilities, studio pedagogy requires great amount of resources, scheduling, pedagogical visions, and engagement. Learner-centerness and social aspects of learning are strongly emphasized, and many voluntary multidisciplinary projects are offered.

Avainsanat – Nyckelord – Keywords
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Table of Contents

1 INTRODUCTION 6

2 DESIGN STUDIO 8

2.1 CONCEPTIONS OF THE STUDIO 8

2.2 PEDAGOGICAL AGENCY OF THE STUDIO 10

3 THE STUDIO MODEL 15

3.1 CREATING THE STUDIO MODEL 15

3.1.1 Learning outcomes 17

3.1.2 Project assignments 17

3.1.3 Classroom practices 18

3.1.4 Conceptions of creativity 19

4 MATERIALITY 21

4.1 EMBODIED PRACTICES (IN LEARNING CREATIVITY) 21

4.2 SOCIO-MATERIALITY (IN STUDIO PRACTICES) 23

5 RESEARCH QUESTIONS 27

6 METHODOLOGY 29

6.1 CONTEXT 29

6.2 RESEARCH METHOD 30

6.3 COLLECTING THE DATA 31

6.3.1 Interviews 32

6.3.2 Studio observations 34

6.4 CONTENT ANALYSIS 36

7 RESULTS 41

7.1 THE MAIN PEDAGOGICAL ELEMENTS AND VIEWS 41

7.1.1 Concept-based assignments 42

7.1.2 Material experimentations 47

7.1.3 Emphasizing processes 52

7.2 REQUIREMENTS OPERATING STUDIO PEDAGOGY 61

7.2.1 Operational decisions 61

7.2.2 Studio Masters' role 65

7.3 SUMMARY OF THE MAIN FINDINGS 67

8 LIMITATIONS 70

9 DISCUSSION 72

REFERENCES **76**

APPENDICES **79**

FIGURES **87**

1 INTRODUCTION

Studio pedagogy has been studied only recently as a method of teaching art and design disciplines. Most of the previous studies are related to field of architecture, but during past decade advantages of this type of teaching practice has increasingly attained interest also in other design disciplines. Characteristic of the studio pedagogy are methods, that are based on learning-by-doing and reflection-in-action, which are practiced through the projects, ending to public presentation for critique (Cennamo and Brandt 2012, 842).

In my thesis I approach studio pedagogy as a central method in educating future designers especially to the professional field of textile and fashion design. The context of my research is taking place at The Faculty of Fashion, Clothing and Textile Design, as a programme of Finnish Aalto University School of Arts, Design and Architecture. Design students' original collections has achieved notable success at international competitions and trade fairs recent years and teaching methods concerning especially innovative and holistic approach to design interest me the most. Studio teaching is easily associated with creativity. At the core of that method, there is an intentional aim to foster creativity through an intensive working process. Importance of creativity is taken seriously at many professional fields in society, and for example in the latest renewing of the curriculum at the Finnish elementary school -level, creativity is very often mentioned as a learning target. It is seen as an essential 21st century skill in order to solve – or putting efforts to solve – complex problems of our world.

Designers' work is basicly about solving ill-defined design problems. That characteristic fact asks teaching to focus on design process. In addition, the question is about the learning process and improving metacognitive skills. When designing the textile fabric collection, many sort of knowledge must be gained and composed to create final presentations of the artefacts. In this research, one aim is to take a look at those practices and make a compact description about the main elements of studio pedagogy in the context of teaching future design professionals, expertized in textiles.

Another aim of the study is to describe pedagogical views behind the teaching practices chosen. Theoretical approach to this thesis is based on R. Keith Sawyer's (2018) research results concerning teaching and learning creativity in schools of art and design. His concept of *the studio model* is a ground also for my theme interview questions. I approach my research task with ethnographic method, and in addition to four interviews, I conducted two observation sessions; one in the Woven Fabric Studio and another in the Fabric Printing Studio. The main research data consists of the information from Associate Professor in Design, especially Fashion Research, Adjunct Professor in 3D Surface Design, especially Textile Materials, University Teacher of Textile design and two Workshop Masters of the Soft Studios. Theme interview questions were equal for the two lecturers, and tailored for Workshop Masters and Associate Professor, also Head of Fashion, Clothing and Textile MA and Fashion BA –programmes, in order to get their point of view concerning studio practices and the operational system in general.

Studio pedagogy needs several special arrangements. It seems like a challenging puzzle to be constructed in a way, that every detail functions well together and serve the same targets of the learner-centerness, as well as following the strategical directions. Among one of my informants, there is a kind of hype going on in design field and creative education, and numerous collaborative projects are put into action, and new design-driven multidisciplinary projects are highly encouraged. Resourcing turned out to be a challenge, as the studio courses are very popular among the students, and only limited amount of personnel lead the studio projects. Furthermore, the amount of the students in studio classes must be limited as well. Thus, I present a synthesis of the main requirements, that studio pedagogical approach to teaching altogether demands.

In present thesis, materiality gets some special attention because it has a fundamental role in designing. Material explorations are central processes when developing and designing the textile collections, whether for interior or fashion purposes. Studio pedagogy enables inquiry-based actions and embodied practices, and thus combines learning by doing and learning with the help of the instructor as expert coach. At Aalto ARTS, concentrating on that combination has clearly shown its benefits, and challenges faced in the studios or at the operational level can obviously be defeated with creativity and qualified co-operation.

2 DESIGN STUDIO

In this thesis, I approach studio practices in the context of teaching and learning at the univeristy level education. First, however, I present a few conceptions of the studios, mostly based on the recent studio studies. Further I take a compact look on the epistemology of the studios, as it is important to recognize some of the complex relations of studio practices as valued cultural actions.

2.1 Conceptions of the studio

One research tradition from the late 1970s is called ‘laboratory studies’, where social and cultural researchers started to examine those organized, routinized and managed ways to produce new phenomena or knew knowledge. Lately, there has emerged a tendency, that creative and innovation practices involving design are happening in spaces called ‘design labs’ or ‘culture labs’ in which analogy with the ‘laboratory’ (lab) shows the studio as a key site of knowledge production. (Farías & Wilkie 2016, 8.)

Studio can be seen for instance as an equipped space that is dedicated to a kind of production. However, seeing studio as an invented space, with devices and techniques invented to allow inventions, – produce something that doesn't exist – makes those spaces more complicated to observe and define. According to Hennion (2016), all connections of heterogeneous entities (users, publics, aesthetics, taste, etc.), and the circulation of things does not always happen automatically, but the connections has to be made, and that is why there are studios. There is a need for special spaces, where “proofs, trials, tests and so on first have to be made.” In order to have connections, they have to be first created. (Hennion & Farías 2016, 73, 75.)

Studio has commonly been concidered a place for producing for example music or films, making laboratory-like scientific testings or creating design concepts (such as architecture) or piece of visual art. The question is about making new ideas and that connections are possible. The concept of gathering is important, when talking about studio work. All people gathered in for example music recording studio, come with their competence, expertise and knowledge, and has to be ready for negotiations, surprises and changing their roles. The components are brought by professionals from outside, but in order to create a

song, there must be testing and mixing etc. Hennion speaks about the importance of the possibility to first *isolate* from the world outside. Work must be cut from the world, and you need that space and equipments. In order to produce something for the world market, you need first to incorporate, collect things you usually need, and then make repetitions and tests etc. (Hennion & Farías 2016, 75.)

Also Ash (2016, 93-95) theorizes the studio cannot be seen only a traditionally preset geometric "container for action, but the space where everything is co-produced with the range of objects, which in turn produces the space of the studio as a particular location for particular activities." Studio is thus a space that is constructed with objects, tools and technologies arranged and rearranged.

Farias and Wilkie (2016) points out, that there are several different forms of studios to explore and that we should not see studios as a tightly demarcated place. Studio sites represented in latest studies, are multifaceted workplaces; in addition to the field of visual arts studios (ateliers) they are known in advertising and many other genres of design. Engaging with the studio means "closely studying the situations in and through which distributed creation processes take place (Michael 2016, 209)." Distributedness of the studio is obviously stressed in studio studies talked in latest literature and articles; studios can be linked with other spaces (like domestic space for example), there can be complex institutional settings (universities, corporations, firms) and peculiar interconnections with various actants (like references collected spontaneously, officials). Thus, some sort of 'creative accomplishment' operates in studios with those movements and combinations of various types of stuff and signs. The confluence of flows and gathering of relations can be seen studios' distributed-ness. (Michael 2016, 210.)

Studio is usually approached as a key site for the production of cultural artefacts. By researching studios, we can also find out how creativity operates as a situated practice or process. Many micro-level case studies reported in literature offer also a view to many other studio formats. Studios as a learning environments are examined mostly through the context of architecture education. For example Shaffer (2007, 103) has had ethnographic studies of architecture studies at MIT. He describes the studio as a unique learning environment, where surface structures (i.e. 'the physical, temporal, material and social context of action and interaction), pedagogical activities (i.e. 'the recurrent participant

structures of roles and actions that organize activity in the studio') and epistemology interact.

It is important to be aware of our epistemological sight; our aims, values, appreciates and conceptions of actions and artefacts are crucial part of our decicion-making and ambitions. When discussing this topic from an educational point of view, the more crucial it gets. Brandt et al. (2013) have described epistemology of the studio as reflections of "core beliefs of a discipline, classroom, studio facilitator, and group of design students, and emerges as a cluster of emergent normative qualities that define ways of being and acting in a specific disciplinary context." According to Shaffer (2003, 5), "different communities of practice (for example different professions) have different epistemologies: different ways of knowing, of deciding, what is worth knowing, and of adding to the collective body of knowledge and understanding." Epistemological differences can be seen for example in conceptions of what is constituted 'good design', considering the role of instructor as a 'studio master' or a 'co-constructor of knowledge' and the purposes of the critique. Critique can be used as a tool for assessment or socialization into the profession. Cennamo found, that enchancing students' epistemological understanding of the studio and professional norms, and developing their facilities with design processes emerged also from collaboration of students and the faculty. (Cennamo 2016, 251-255.) "Tacit rules and habits of the studio guide how meaning is made and how design is practiced in studio-based learning." There is an important task for academic studio entity to take into account the larger disciplinary community of practice offering possibility for students to learn the norms, practices and tools used in larger professional communities of practice. It's also essential to take into account the disciplinary norms of academic community, especially when operating interdisciplinary design studios. (Brandt et. Al 2011, 346.)

2.2 Pedagogical agency of the studio

Roots of the studio are found in apprenticeship-driven artisan training. Model of the master craftsman and their student developed into the atelier-based system in France during the early nineteenth century. The french model was refined then through influences of German Bauhaus in the early-twentieth century. Several decades ago studio-based teaching was introduced in U.S. and since 1990s studio method has been used in many disciplines such

as chemistry, mathematics, physics and computer science (Brandt et. Al 2011, 330). Studio is described the 'signature pedagogy' in many disciplines (Cennamo 2016, 249).

The studio is commonly linked to design related curricula; architecture, interior design and industrial design. Typically studio-space is available for students at all times, and classes meet multiple times a week, few hours sessions. Projects and assignments are briefed by the instructors, and design problems to be faced are ill-structured and open-ended. At various points there are presentations of the work and prototypes/models/designs and critique sessions, where efforts are being discussed and evaluated by peers and professors. Design process can be seen as iterative cycle, thus students continue refining their work to direction they gained from the feedback of critique session. Student's representational modes of their work include drawings, sketches, prototypes etc. Self-reflection of the process is seen important as well. (Brandt et al., 2011, 331.) Schön (1987,17) proposed studios to be places providing "freedom to learn by doing in a setting relatively low in risk, with access to coaches who initiate students into the 'traditions of the calling' and help them, by 'the right kind of telling' to see on their own behalf and in their own way what they need most to see (Cennamo, Brandt 2012, 854)."

Creativity-enhancing pedagogy can be seen as the mission of studio teaching. Academic research has been increasingly made especially during the past ten years within topics such as creativity, design thinking, collaboration and creative learning processes. There are numerous different definitions for creativity, depending on the field of discipline or knowledge. In education, there are studies for example about creativity's social and collaborative nature (Sawyer 2016,13-18), about creativity potential that everyone is supposed to have (Richardson 2016, 415-418), and about creativity's empowering effect inside social structures and schools (Good 2016, 309-312). Creativity has been considered crucial part of invention making and design practices. During the 21st century scholarly research has been made. It focuses on context and conditions that enable creativity to flourish, because of demands of so called 'creative industry'. Creativity has emerged as a central category when discussed about social and individual wellbeing as well as economic prosperity. There has been stabilized new vocabulary around creativity such as 'creative class', 'creative cities' and 'creative industries'. Novelty and novel ideas are largely desired and appreciated. Studies of cultural production has been focusing on broader social, industrial and institutional contexts. (Farías & Wilkie 2016, 56.)

The Organisation for Economic Co-operation and Development (The OECD) concluded in 2008 that "creativity is increasingly necessary for individuals and for societies." In European Union, since 2009 imagination and creativity was officially launched to be the most crucial things to Europe's future. Educators and policy makers worldwide have encouraged schools to move toward new pedagogical methods, delivering for creative learning outcomes instead of keeping traditional teaching methods such like instructionism. (Sawyer 2017.)

For example in U.S. pedagogical methods has faced critics about evaluation and testing systems, that promote students' abilities to find one right answer instead of challenging them to find answers from multiple solutions. Art and design education is seen to have an important role in preparing 'innovative, balanced, synthetic creators and thinkers; tomorrow's change makers' that are critically needed in complex 21st century world. Training should be focused on teaching collaborative skills, creative, analytical, practical and independent thinking and fostering self-directed and inquiry-based learning. (Ingalls Vanada 2014, 21-22.)

Hokanson and McCluske (2016, 180-187) has investigated creativity habits with their experiential studio course 'Creative Problem Solving'. Their goal was to develop each students' creativity by training them with the assignments integrated students' everyday lives. The series of challenges were composed with the idea of "doing something different." According to their notions, creativity doesn't develop spontaneously, but it has to be specifically addressed as a topic. They propose, that being more creative comes within the set of components such as knowledge, beliefs, skills and habits. They claim that "our level of creativity can be increased if we choose to do so." One notion of their study was also, that curiosity, playfulness and fun shouldn't be forgotten as a part of creativity.

In the context of design studio, design itself needs to be defined. According to Cross (1982) design is defined as 'the conception and realisation of new things', that have utility or value for a user, client, or customer. Cross describes the nature of designing as actions in man-made world; there is a conception and realization of new things, it compasses the appreciation of 'the material culture' and the application of 'the arts of planning, inventing, making and doing'. Design has a 'language' of 'modelling' that can be learned. There are certain designerly ways of knowing, and ways of finding out the things that are worth

knowing. The conciderable notion from observational studies found designers suggesting problem-solving by trying out large range of solutions, making synthesis, while scientists problem-solve by analysis. Designers are involved in a process of 'satisficing' rather than optimizing. (Cross 1982, 221, 223.)

The point of using *design thinking* as a learning target, and studio teaching as a method also in field of general education, is based on the nature of design process. We need to develop constructive and also critical thinking skills. Nature of design is constructive, normative and creative, while science is comparably concidered analytic. Designer faces ill-defined (or wicked) problems, and tries to produce the solution. "Designing is a process of pattern synthesis, rather than pattern recognition." The development of cognitive skills and abilities can be developed to higher levels and critical thinking becomes necessary within solving particular kind of problems, further communication and nonverbal thought is developed. (Cross 1982, 224-226.) In addition to concidering design as creative process, it is seen also a social process (Schön 1984, 132). Among several scholars, design thinking is an approach to learning, involving hands-on projects, inquiry, investigations, sketching, prototyping, collaboration, feedback and reflection or possible redesigns of created products or ideas. Burnette (2005) has framed design thinking with his model 'Design for Thinking (iDESiGN),' introducing seven models of thinking; intending, defining, exploring, suggesting, innovating, goal-getting and knowing. Thus, design thinking can be summed as 'a cross disciplinary creative problem-solving process' that involves analytical and creative thinking, as well as practical skills (Ingalls Vanada, 2011, 22,24).

Groth (2016, 1, 14-15, 17) has made research about design and craft thinking from the perspective of embodied cognition. She proposes that tactile- and material-based forms of education can be concidered as a key to learning, and experiental knowledge can be achieved only through situated and embodied interaction with materials. Thus, embodied cognition should be included in the concept of design thinking. Groth cites Kimbell's (2011) notion that partly ambiguous meaning of the term 'Design Thinking' (Brown, 2009) has developed towards a concept of a business and organisation innovation method, and the traditional understanding it as a study of the cognitive processes of the designer is seen as separate direction. According to Groth, designing is presented by many scholars as a

predominantly intellectual activity, portraying designer as thinker, while making and crafting the design is thus situated at the end of the design process.

Cennamo's notion is, that depending on the academic and professional cultures, the studio can be constructed in many different ways. However, common for all of them is the focus on specific design problems that are explored and solved by studio-based learning practices. She also points out, that studio must always be analyzed through acknowledging discipline-specific tools, parctices and beliefs. As mentioned before, design problems can be called 'wicked problems' characterized of the virtually infinite number of possible solutions. Monson (2008) notes, that finding solution to those problems includes rather maintaining or increasing possibilities than diminishing them (which is in contrast typical in problem-based learning). Schön (1987) describes studio-based learning as putting things together and bringing new things into being and dealing with processes with many variables and constraints, some of them known and some discovered through designing. Increasing expertise as designers, students engage in design activity and reflect their design moves in the moment (reflection-in-action) and after completed (reflection-on-action). As some other scholars put it: students learn about design while doing design. So the one aim is to become a practicing member of a professional community of practice with a design discipline; being and becoming a designer. (Cennamo 2016, 256-257.)

3 THE STUDIO MODEL

The theoretical framework of my study anchors to *the studio model* formed by Dr. R. Keith Sawyer (2018), one of the world's leading experts on the creativity and educational research. His latest publication sheds light on teaching and learning creativity in schools of art and design in U.S. In this main chapter, his research is particularly referred, as it offers an encompassing overview of the conventions of studio teaching. Also conceptions of creativity will be shortly referred.

Before the ethnographic study of certain schools, Sawyer made empirical studies on both fields on K-12 education and higher education, with art and design disciplines and 2017 published a systematic literature review, the meta study of the studio pedagogy. For that, he collected data from wide range of databases, further making content analysis ending up to 65 peer-reviewed journal article for the final grounded theory analysis. The majority of the articles concerned higher education, and the aim was to search for the pedagogical practices found in art and design studio classrooms.

3.1 Creating the studio model

Sawyer summarized his findings about art and design pedagogies in three clusters with including themes as following: *Pedagogical practices* (1. The pedagogy is flexible, open-ended and improvisational 2. Students are active and independent 3. The classroom is a community of practice 4. The pedagogies of professional creatives 5. The tension between open-ended assignments and the need for structure), *Learning outcomes* (6. The creative process of making 7. The tension between technical skills and creativity 8. Non-academic personality outcomes 9. Student confusion about the learning outcomes) and *Assessment* (10. Assessment through feedback and critique 11. Use of rubrics).

As a result, Sawyer proposes that these clusters might be generalizable also to non-arts subjects, when the goal is education to foster creativity. After the descriptive quantitative statistics of this research, studio pedagogy appears to be a nearly universal approach to creative teaching and learning. In design education studio pedagogy has increased dramatically since 2001. According to research mentioned above, studio pedagogy is designed to result in the mastery of creative process. It has a constructivist, open ended

nature and it is student centered. Instructors work to create a community of practice where they are peer with the students. Experimentations and risk taking is encouraged. The classroom sessions are flexible and improvised. Also the ability to engage a creative process is part of the evaluation. (Sawyer 2017,105-111.)

The studio model – a cultural model of teaching and learning – has its ground in the cultural model theory. In learning sciences, there emerged the sociocultural turn in the 1980s. Sawyer's study examines the cultural models associated with professional education. Defined with the words of d' Andrade (1987) "a cultural model is cognitive scema that is intersubjectively shared by a social group." According to Quinn & Holland, (1987) in this type of research the aim is to find out and understand "what people must know in order to act as they do, make things they make, and interpret their experience in the distinctive way they do." For a full understanding of tacit beliefs and practices, ethnographic method is commonly used to observe situated social practices. Thus, fuller understanding in this study focuses on creative teaching and learning. (Sawyer 2018, 145.)

Sawyer's research is done with an ethnographic method including structured interviews (38 professors from two art/design schools, selected by their dean, and from 15 art/design disciplines) and observations in studio classrooms. In addition, the model was then validated with 16 professors from six art/design-schools. The study is focusing on visual arts education in higher education institutions and pedagogical practices used in professional design programs. It is the first study of a broad range of professors, classes and disciplines, and it is combining both art and design disciplines. Among learning sciences, there is remarkably little research of higher education art and design pedagogy. Design and especially art pedagogy is lacking research, theoretically and empirically informed discussion, only architecture education makes an exception. Art, as defined in his study, is distinct from design that it responds to personal, subjective criteria, but design products are performing for wide variety of audience and user behaviors. (Sawyer 2018, 141-145.)

By using grounded theory methodology, the researcher had then a tool to "elicit both the explicit and the tacit aspects of the cultural model people use, and to interpret participants' tacit meanings." From those meaning units (two- to five-sentence groupings of talk on the same topic) made of interviews and observations, was then identified the themes by four

stages, that ended up to 45 emergent themes, and were then gathered in three clusters; 1. Learning outcomes, 2. Project assignments and 3. Classroom practices. In the end, these three clusters formulate *the studio model*. (Sawyer 2018, 146-149.)

3.1.1 Learning outcomes

Sawyer's first research question was: Is creativity an intended learning outcome in art and design programs, and if so, what conception of creativity? Cluster one is about learning outcomes, with specific 14 themes from the interviews. (Sawyer 2018, 138,140.) The study showed, that the most important learning outcome in art and design schools was *the creativity conceived of as a process.* The creative process is iterative and nonlinear, and ideas are emerged from working with the materials. Predetermined conception of the final outcome should not be the target, but the final work should emerge from the process. The process is open-ended, and students have to make decisions and focus when discovering their own way of doing the project. Discipline-specific learning outcomes are best learned within the creative process and students' need also to learn how to do research in their discipline; to evaluate what has been done before, but that takes place *after* they have followed their own path first. Learning how to see was thought important. It is based on the knowledge of how and why certain decisions were made in the process of generating the work. Students are taught, for example, to see also the negative space. If it is not taught intentionally, students can not be consciously aware of how those negative spaces impact them. In the same way professors want students to learn how to think. It is seen very intentional and very important, and as the sculptor put it: "the point of the class is not to build a thing, but how you think when you are building." (Sawyer 2018, 150-153.) Many examples of techniques were introduced opportunistically. Prerequisite lower-level technical skills were not concidered the starting point of a learning process. Creativity, problem solving and critical thinking should be with the process from the very beginning. The research of the own discipline should be taught so, that first there is work, problem solving and own path, then, if needed, looking at precedents.

3.1.2 Project assignments

Sawyer's second research question was: "What pedagogical beliefs and practices are found in art and design schools?" He found that project assignments and classroom practices are designed to lead to creativity, conceived of as mastery of the creative process. Mastery of

the creative process can be seen the primary goal of art and design education. (Sawyer 2018, 138, 154, 166-167.) Among professors, they can not teach creativity directly, but by providing guiding structures. Well-designed project assignments, that professors create themselves, are those guiding structures. Students need to identify their own path to solve given open-ended problems, and they are scaffolded by instructors through their creative process. Severe constraints on assignments are seen necessary, and even enhancing creativity, as without them students would not know how to begin. Well designed constraints prevent students choosing the most obvious path, based on their existing knowledge and experience. Thus, students are encouraged to become aware of their own biases and their 'own aesthetic temperament'. One agenda of including constraints into assignments is also to guide students to make decisions. Without some limited set of options to choose from, students would spend too much time on thinking about their choice rather than focusing on their conceptual work. Students must be sufficiently challenged conceptually, otherwise they choose a familiar path and would not be engaged in a deliberate creative process. Engagement in the process is crucial, and in creativity research *the problem finding* is the concept that leads to greater creativity. An authentic experience of a creative process provides progressive iteration, working with materials, solving appearing problems and also failing and working through that failure. Thus, good assignment means, that good ideas are emerged from the process, they are not found at the beginning of it. Students are encouraged to generate many possible solutions, fostering their *divergent thinking* and *flexibility*, which are also associated with greater creativity. Time management is an essential part of the process and it is stated, that effective learning takes time and sustained focus. Talent is no shortcut and slower and longer processes are more likely to lead to successful creative outcomes. One of the main conclusions on the research summarized, is that through discovery, exploration and active learning within nonlinear iterative process, working with the materials throughout the process, students are thought to best learn the creative process. (Sawyer 2018, 154-160, 166.)

3.1.3 Classroom practices

By observing interactional formats in studio classes, there arose ten themes in classroom practices, which guide students toward mastery of the creative process. Students were encouraged to be more concious and deliberate with their processes. Professors and peers were discussing about the work in progress presented shortly during class sessions.

Students are pushed to be very detailed and specific in their reflections about their aims and work done by that. This method enables students to be more deliberate, to learn making decisions, to learn how to see, and generally foster their metacognitive and reflective abilities, experiment in the presence of ambiguity.

There is also the fact, that experiments lead to dead ends, the idea is not working, so a new way forward should be found. The initial intent of the final work often fails, and those mismatches are used as a guide to see, and to use them to continue toward other ideas, and directions. The essential thing is, that the articulation and reflection is constant, and it has to be like that, since that "leads to a more advanced ability to see and think about creative work." Students are helped to discover their own aesthetic. Therefore professors abstains from telling if they liked the student's work or not. The focus should not be on the final work's looks, but driving the process forward. (Sawyer 2018, 160-165.)

3.1.4 Conceptions of creativity

Modern creativity research began approximately 65 years ago and the conception of creativity was restricted to show it as a personality trait. In 1970s, a few researchers suggested that creativity could be taught and creativity training programs were developed. Recently, many extracurricular activities have been particularly arranged to emphasize students' creativity. Some evidence of success are found but only in programs that continued for a long time.

Sawyer (2018) described four different conceptions of creativity, from which the first one is creativity seen as a personality trait. The conception leading from the 1950s believes that creativity is relatively fixed, and from the educators point of view, students should be taught to realize their pre-existing creative potential. Another concept is creativity as self-expression, that is associated with Romanticism and Freudian psychoanalysis. Believing in that conception means that creativity can be released from possible blocks, by discovering his or her inner voice. The third conception explains creativity as a moment of insight. Pedagogically it can be exercised with enhancing cognitive processes associated with idea generation, for example divergent thinking and analogy. This conception is created by the Gestalt psychologist, who suggested that an insight comes from a sudden restructuring of the mind. The fourth conception of creativity suggests that creativity is a process. Only this conception arose strongly from the grounded theory analysis made from the collected

data. Recent empirical studies shows strongly, that an artist or a designer should be engaged in an iterative process and small ideas occuring frequently within the process, is the core of creativity. (Sawyer 2018, 138-139.)

The third research question of the study described above was: “To what extent are creativity conceptions, and creativity pedagogies, common across art and design disciplines, and across different schools?” The question was further answered by the result that all 15 disciplines and all 8 institutions share the same conception of creativity and the same pedagogical beliefs and practices. (Sawyer 2018, 138, 167.)

Sawyer (2004; 2016, 14-16) has also studied creativity in the context of collaborations and learning, and proposes creativity to be social and collaborative in nature. Creativity began to be concieved of as a social and group process or as activity few decades ago. In a group, observations and certain collaboratively formed patterns help people to improvise but they improvise within a certain structure. As he suggests that this balance is necessary for successful teamwork across fields, it is convenient to see teaching also as structured and creative action. All creativity is proposed to involve a tension between structure and freedom. Sawyer frames learning to be a socially constructed process. He suggests, that through a deeper understanding a person is prepared to be creative through adaptive expertise. As expertising needs the ability to use and transfer knowledge into new applications, the core of the creative learning is achieved; ”to come up with things build on what you have learned, but that you haven’t been taught.” Sawyer also believes, that creativity can not be taught, because creativity is ”the way that you act and engage with the world.” Teachers can surely design learning environments for creativity, by which teaching becomes an act of designing. In creativity research the big problem is the inability to observe internal creative process. That can be visible only when observing group creativity of, for instance, improvisational theater performance.

4 MATERIALITY

Materiality is seen a crucial element in creative process, especially in the field of arts, craft and design. Next I will describe materiality associated with embodyment, and sociological aspects of materiality, which has been examined also in context of the studio work.

4.1 Embodied practices (in learning creativity)

Tacit knowledge is a commonly used notion in the field of design and craft. Nonaka and Takeuchi (1995) propose that knowledge is originally tacit, it is integrated in individual's, experiences, actions, ideas, values and emotions. Tacit knowledge describes skills, it has strong subjective and intuitive aspect, therefore it is very challenging to process, analyse or transfer. Another form of knowledge is explicit knowledge. It is easier to express with words, verbal or non-verbal and it can be also transferred, manipulated and stored. (Nonaka and Takeuchi 1995.) The important view is, that learning is also in informal sites and modalities, and instead of only cognitive activity, it can take an embodied mode (Mäkelä & Löytönen 2017).

Embodiment is also suggested to be part of design thinking (Groth 2016). Embodied cognition theory has lately gained credibility, but there is still lack of a comprehensive empirical model how the practitioner uses his/her embodied knowledge. In order to study body-based knowledge, Groth describes some theories to support the meaning making of this kind. Embodied cognition has its roots in phenomenology, which claims that we perceive the world through our senses and accumulate knowledge through interaction with our environment. Some scholars (for example Ponty and Johnson) focus also on relations to meaning-making and effects on language and image. Based on enactivist theory (philosophical approach to neuroscience) the human body is conceived fundamental in all knowing; we create our minds through experiences. "Many aspects of design and crafts based knowledge can be explained by the theory of the situated and embodied mind, especially when it comes to material exploration and manipulation. In this context, the practitioner is using her embodied preknowledge of these materials." (Groth 2016, 4.)

Nimkulrat (2010, 64-65; 2012, 3) has studied the role and expressive qualities of craft in practice-led research process. She proposes that handling materials in practice arises tacit

knowledge and provides a way to understand the practice and maker's (or craft artist's) formation of thoughts during creative process. "Understanding the intangible aspects of a material entails scrutinizing actual textile art practice that uses material as medium." She cites Carter's (2004) conception of 'material thinking' which explains materials to be active through the interaction with the makers' artistic intelligence when operating in creative process. Nimkulrat sees that her research can stimulate students' creativity in relation to physical materials, as materials are rarely been taught in terms of their conceptual and expressive properties, but over-emphasizing textile techniques.

Disciplines, where material handling is a crucial part of the learning process, it is natural to conceive making and thinking almost as one unit, emphasizing each other. According to Groth, designing is presented by many scholars as a predominantly intellectual activity, portraying the designer as thinker, while making and crafting the design is thus situated at the end of the design process. Groth suggests that "the physical making and crafting of a design involves the embodied mind" and further, that "the act of thinking or planning a design likewise depends on accumulated embodied knowledge." One result of her study shows, that "much of knowing is situated in action and in relation to previous experiences and material skills' and thus the conceptual separation between making and thinking in design is not realistic." (Groth 2016, 1-3.)

Investigating design students' use of their embodied knowing in material exploration showed, how physical touch (tactile sense) and mental images of the material plays an extremely important role in decision making in the design process. While sketching and drawing is traditionally strongly linked to designer's thinking process (Hakkarainen & Seitamaa-Hakkarainen 2015, 8), also the modelling and prototyping directly with the material "may be seen as a way of thinking through the interaction of hands and material, body and environment." Some students found drawing even useless, but instead wanted to investigate and compare different materials physically through sampling. Mental imagery and ability to judge material properties based on previous experiences (material choice) are important in design work, as well as embodied cognition, such as touch. The study showed, how "design students can benefit from embodied material explorations in order to more realistically form a mental image of an envisioned design, already in the concepting process." (Groth 2016, 12-17.)

Material experimentations are concidered a fundamental and integral part of learning processes in the field of art, craft and design activities, being enchanced especially by a studio model. The notion of *vital materiality* (Bennett 2010) describes the power between matter and the (non-living) physical world where materiality is seen. That power directs the craftsperson or the creator, combining itself with other types of powers, emotions and bodies that are present in the process. It can be described, that "materiality is simultaneous with and intrinsic to the creative process itself: materiality resists or imposes challenges and constraints on her (i.e. creator's) ideas, ways of working and attitudes (Mäkelä and Löytönen 2017, 253-254)."

4.2 Socio-materiality (in studio practices)

Sociomateriality is a theory of relations of technology, work and organization. It tries to understand the constitutive entanglement of the social and the material. Having its roots in philosophy and sociology, this theoretical concept is described as phenomena where "the social and the material are considered to be inextricably related — there is no social that is not also material, and no material that is not also social." (Orlikowski 2007, 1437.)

Social can be for example institutions, norms, discourses and other human intentions. Sociomateriality studies contextual and relational issues that shape and organize human behavior. All materiality can be said to be social, as it is created through social processes and it is interpreted and used in social contexts. On the other hand, all social action is possible because of materiality. (Leonardi & Barley 2010, 2013.)

Technology has its material features, and within learning sciences, its role in teaching and achieving deeper understanding of the interactions with social and material aspects has been recently studied. Socio-materiality is proposed to provide both originality and utility, and it applies to all form of learning practices as they are mediated by materiality. Johri (2011) has made an effort serving both research and practices of learning technology by developing a concept of *socio-material bricolage* as an analytical framework led from the theory of socio-materiality. It shows how practices can "emerge through the *ad hoc* use of available artefacts by people often in conjuction with others and while participating in situated activities." Particularities will be present and observable across practices, and the combination of people and materials involved provide variations of an assemblage. (Johri

2011, 215.) As cited from Barad (2003) ”human actors and technological objects are understood to emerge i sociomaterial assemblages.”

Nasir and Cooks (2009) have identified three core resources influencing on learning; the material, relational and ideational resources. With ideational resources, they mean the creators ideas about themselves, and one’s place in the practice and the world, in addition to ideas about what is concidered and valued good. Inspired by practice-led research developed within art and design universities, Mäkelä and Löytönen (2017) arranged the university course called Design Exploration and Experimentation (organized at Aalto University, School of Arts, Design and Architecture), targetting to give students a wider concept of design and learning and chance to benefit from processes typical to fine arts. There was an intention to find out how artistic and ‘designerly’ ways of working could feed one another. The course emphasized the use of hands-on work and the dialogue between a person and medium. Reported as one main result in their case study is that organic matter has a pedagogical agency, as materiality teaches in its own way. Significance of the physical environments, spaces and social arrangements can also be crucial in learning process and has their own agency as well – they “open or limit the possibilities for new practices, knowledge, networks and relationships to emerge.” A specific physical environment or space is significant also for students defining themselves as members of the learning community and the practice as design. (Mäkelä and Löytönen 2017, 250-251, 255.)

From a sociological view, there can be found different meanings for the word ‘work’ – there is work as practice and work as a product. Work can be seen also as express of an expression. Being able to understand studio work and its very reflexive nature, we need to see the point of ‘doing things together’. The question is about theory of action, and things themselves participate in the acting. Producing things is localized, situated, equipped and bodily experienced. Hennion’s concept of the making of *maquettes*, ‘empirical materializations of a plurality of things’ is – according to the researcher – what working in every studio is all about. This can be described as the following: if you are defending the first idea or position you have, it can be changed by collaboration with other people (focusing there in the same object), giving “an embodied experience, knowledge and other ideas”, and you will be *redirected by maquette, resisting thing that has its own presence.* And when talking about producing things: “the maquette is half an image made thing, half

a thing made image, and it gives life to these images", it's being in between, being "in front of a material thing, which is not really yet the object." It's making of sketches, models and forms, because you need the first form to produce another one. "A good actual maquette gathers to itself new potentially productive relations." *The concept of originality* arises there, how things are appreciated. "You never know which is first: the demand, the circulation, the expectations, the physical objects, or the material work to make them appear. And it's largely studio work." The question there is to making present the things from which we start, and then inventing ways to realize them. Things become present in the studio, by process of selection and giving importance and in-form them. (Hennion 2016, 74, 77-79, 81-82, 212.)

In the center of different labs or studios there is precise materials, "different stuff you gather following what you do", in order to making things real. Hennion (2016, 83-84) reminds, that we should not go to dualism by thinking that labs and studios are different, but instead understand that "science is creation too, as well as art is knowledge." He uses expression of 'matters matter' as a central point; "people in labs and studios compose what they make appear from different materials." He cites W. James' (1909) words; "What really exists is not things made, but things in the making." Another researcher É. Souriau (1956) has an approach to art as a sort of voice given to the work, focusing on the emergence of things, making them be; power of the call to be created.

The notion used in laboratory studies – *'distributed cognition'* has been accepted as a central part of complicated processes that no single person can perform. Likewise, Farías (2016, 4-5) has launched the notion of *'distributed creation'* in which creativity is seen as a socio-material and collective process, and no single actor holds all the cards. Studio space can also be concidered intimate, including 'material intimacy'. Long-term intensive engagement with objects and materials in studios is the policy towards innovations or cultural artefacts. Studio can be seen as the habitual, bounded space shaped by those distributed creation processes. Farias and Wilkie (2016, 7-9) use the notion of *'studio life'* and that designates a vitality and "variegated events in which potentialities of materials, artefacts, bodies, images and concepts unfold empirically", concidering the properties, constraints and entities that enter into the studio. Studio life is about inventions, intimacy and aesthetics. In laboratories generally, the aim is to produce *new* knowledge, but in studios according to Farias, the fundamental challenge is *the production of necessity*, that

means decision making, discarding alternatives and endless possibilities. He argues, that a typical studio situation is not about solving a well-defined or stabilized problem, but usually it's "the one where practitioners do not quite know what they are searching for." Thus, the invention is definitely the thing studio practices usually lead and encourage.

In meetings of different 'practitioners', (experts or lay), everyone brings the valuable knowledge and perspective that is always already 'situated' , by a responsibility to their object of knowledge and commitment to the standards of their specialist community. So, the process is a dynamic because of practitioners differences and any synthesis is continued differentiation. One interesting area to survey studio practices are 'cultural probes' (or the speculative design tradition), devices designed to be playful, ambiguous and provocative in ways to arise new ways of thinking about technologies. They are designed *pro-positionally* to draw in new and unexpected associations, and there is seen potentiality in them. (Michael 2016, 213, 215.)

5 RESEARCH QUESTIONS

In my thesis, the aim is to examine studio pedagogy as a central teaching method when educating future design professionals to the field of textile and fashion. This research is taking place in Faculty of Fashion, Clothing and Textile Design, as a one major program of Aalto University, School of Arts, Design and Architecture.

The studio is common name for learning environment designs within which creative work is practiced under the guidance of an instructor (Sawyer 2017, 100). Hands-on studio practices have used to be part of Finnish design education for a long time, but within past few years, efforts have been put to open studios available for all students interested, regardless of their different major study programs. As there are always beliefs and visions counting behind every pedagogical decisions made, they also are examined in this research. The main research question is:

1. What kind of pedagogical elements and views are found behind the studio practices at the Faculty of Fashion, Clothing and Textile?

Approaching above question, I used R. Keith Sawyer's the *studio model* as a ground theory. His research refers, that creative process is generally concidered the principal learning outcome in art and design disciplines. It also shows, that project assignments and classroom practices are designed to scaffold mastery of the creative process. Creativity is commonly conceived in particular as *a process*, not for example a personality trait or result of self-expression. (Sawyer 2018, 140.) In this thesis, I use clusters of the studio model – project assignments, classroom practices and learning outcomes – as a central themes for setting the questions for the instructors interviewed.

Another research question emerged from the data collected from interviews and observations:

2. What requirements are needed when operating studio pedagogy?

Studio pedagogy obviously needs special arrangements. It seems to be a rather complex puzzle of different arguments to be constructed in order to serve the learner centerness as well as follow and renew pedagogy to meet strategical and professional design field's

demands. Various collaborations and multidisciplinary course settings are offered in order to achieve new perspectives and aspects to learning practices. High quality education means also offering up to date equipments and expertised instructioning. Students at FaCT are prepared for careers of high international and professional level, by providing them reasonable working methods (www.aalto.fi).

Resourcing is a common challenge at many fields of education, as every single project needs to be carefully organized and put into practice by qualified people. Thus, one of my aims in this thesis is to present a synthesis of the requirements, that studio pedagogical approach to teaching altogether demands.

6 METHODOLOGY

6.1 Context

Aalto University School of Arts, Design and Architecture is a multidisciplinary and international university in Finland. In 2007, the Helsinki University of Technology (including the School of Architecture), the University of Art and Design Helsinki, and the Helsinki School of Economics were merged into the newly formed Aalto University. In its present form, school became operational in 2012 when the Department of Architecture merged with the School of Art and Design. The school started to operate in 1871, and was known as The Craft School situated then at the heart of Helsinki in a building known today as the Finnish National Gallery. (http://arts.aalto.fi/en/about/history/). Aalto ARTS is known for its wide international interaction, connecting education and business networks, without forgetting the national multidisciplinary co-operations. There are collaborating universities on all the continents and a big part of the students and faculty staff are foreign. The degree is possible to complete both in Finnish or English.

Faculty of Fashion, Clothing and Textile desing

This thesis focuses on examining conventions of studio pedagogy operated in the faculty of Fashion, Clothing and Textile Design programmes (later will be referred to as FaCT). This faculty is part of the Department of Design. In order to get accepted to study in these programs, students have to go through the application system. Both Bachelor's (BA) and Master's (MA) Programmes include multiple courses, such as weaving workshops, that are offered also for students of any other major disciplines, such as industrial design, ceramics etc. The principle idea is to encourage students to find their own individual and possibly multidisciplinary path on their way to expertize in the field of design. The values of Aalto University are described as "a passion for exploration; the courage to influence and excel; the freedom to be creative and critical; taking the responsibility to accept, care and inspire; and integrity, openness and equality (http://design.aalto.fi/en/)."

Those values are cherished at the FaCT that is recently gone through big renewings of the curricula. Students' success on the international competitions, such as The annual Festival International de Mode & de Photographie Hyères held in France, has been noted widely.

The new fashion pedagogy is deeply linked with the textile studios, and combines tacit and haptic knowledge with material based experimental pedagogy. This has led to the discovery of a new kind of *textile thinking*, which fosters the deeper understanding, and constructions of new knowledge (Salolainen et al., 2018).

My own interest to focus on this type of research setting and FaCT stems from the fact, that I made my own MA -studies on Fashion Design at the same school two decades ago, then known as University of Art and Design Helsinki. Thus, studying this topic feels very natural, and offers also a chance to reflect current conceptions of the design studies alongside with the craft science as well as teacher education. It is interesting to analyse pedagogical ambitions of the design school, and investigate its answers to the demands of 21st century skills - asked also for every modern school at our times. Studio teaching as a pedagogical method usually stays inside the institute where it is been practiced. However, there could be found beneficial elements to adapt into pegagogies of other school levels as well, which makes the topic important to examine.

6.2 Research method

The intention in my thesis is to gain information and describe the principles of the pedagogical elements and views operated in specific design learning environments. My research approach is qualitative and there are certain ethnographic elements in it. According to many sociologists, the qualitative research as part of the human sciences has been conceived as a method that is targetting to contextualization and interpretations and it aims to deep understanding of the subjects' point of views. The researcher tries to get closer to those senses, that people give for certain events or phenomenas. (Hirsjärvi & Hurme 2009, 22, 28.) Especially individual context can be better understood, when taking the study into the real-life environments.

Qualitative research methods helps to search for certain patterns and multiplicity. It is based on the inductive process, where analysis moves from private towards the common, there can be interests in many operators at the same time and it is very contextual. Theories and patterns are then developed to achieve deeper understanding. (Hirsjärvi & Hurme 2009, 25-26.) With this research method I collect the data from micro-level; from the individuals' views and experiences about studio teaching.

It is typical in qualitative research, that there is no aim to reach the statistical generalization, but to describe the elements of the phenomena, to achieve understanding of it and give a pleasant theoretical interpretation of it (Eskola & Suoranta 2003, 61). While the research setting is based on the field of education and especially practice-based learning, ethnographic approach feels like a very practical way of gaining information. Ethnography as a methodological basis can be thought as a special way to create new reconstructed cultural knowledge, mixing theoretical knowledge and dialogical interpretations of the collected data (Rastas 2010, 65). The final research artifact is then a description or narrative of the phenomenon (Kananen 2014, 15).

According to Schensul (Schensul et al. 2012, 15), the researcher builds an initial set of ideas, hunches and guesses about the study, related to the research question. Ethnography is often convenient way to discover new behaviors, attitudes and knowledge inside the special groups. However, although the researcher orientates and builds the setting carefully by reading and discussing, there is always remarkable chance to face surprising twists in the field, for example along the observations. That can be the point for finding interesting new aspects and there should be a way to turn those surprises around and as advantages for the current research. (Grönfors 1985, 45.)

6.3 Collecting the data

In order to gain actual, real-life information and the deepest possible practical knowledge of the research topic, I ended up to collect the data by interviewing and observing personnel of the Aalto ARTS, that are constantly involved with studio pedagogy and developing its practices. Interviews has been a central method in ethnographic research and they are commonly used together with observations, field notes and documents. Interviews can be formatted in many different ways (Rastas 2010, 67). In my thesis, the emphasis of the collected data consists in total four semi-structured interviews at the Faculty of Fashion, Clothing and Textile, during January 2018.

Semi-structured interview leans on prefound themes, and questions are defined from them. Themes chosen in advance are practically based on framework of the study and consists of the preconception of the matter. There is also an assumption, that informants are seeing the topic – in this case studio pedagogy and creativity – mainly same way as the themes assume (Tuomi & Sarajärvi 2006, 77). Since the framework of this thesis is based on Keith

Sawyers recent study of teaching and learning creativity in art and design schools, most of the themes and questions of my interviews were formed from his own questionnaire when composing the validated *studio model,* the cultural model of teaching and learning in art and design schools.

In addition, after completing all interviews, there were two observation sessions during February 2018. Using observations does not mean that the data collected by interviews is not enough or reliable, but it offers a desired practical approach to see, what is happening on these studio sessions at everyday level. The mixing of the different research methods is very fruitful way to get different aspects, and is also recommended in order to reduce inappropriate certainty of the results (Hirsjärvi & Hurme 2009, 39).

According to Kananen (2014, 79) the researcher benefits from the authenticity of the situations observed. Also a very limited amount of knowledge about the topic supports the observations as a method. The studios as learning environments are very original, and also practices of teaching itself must be carefully planned for those studio-based courses, mostly because of several limitations, such as time, machinery and space. Conducting the observation after the interviews provided an opportunity to pay attention to certain details noted in the interviews. My aim was to observe and make interpretations about time management and practices on studio sessions. Thus, learning situations described on the interviews, can be seen in reality, in their real contexts

6.3.1 Interviews

The interview is a very flexible and interactive method while participants can clarify, place their words again and explain and correct, if needed. While interviewing, the purpose of the researcher is to transmit the vision of the informants' conceptions, interpretations, ideas, feelings and experiences. (Hirsjärvi & Hurme 2009, 34, 41.) In ethnographic research it is typical to choose the informants with judgmental sampling. The crucial point is to choose the informants that are naturally involved with the topic (Kananen 2014, 76). According to Eskola & Suoranta (2003, 18, 62) it is relevant to keep the sample rather small, but aim at in-depth and exact analyse. Thus, no matter how big is the sample, the focus should be on creating conceptual understanding of the phenomena. Choosing experts or professionals for the interviews is based on the idea of getting exact and sensible information of the current research topic. The focus is not on the peoples, but on the

information they are supposed to have. (Alastalo & Åkerman 2010, 372.) It feels likely, that all who are working together in this certain community of practice, are supposed to share more or less the same vision and commitment of the pedagogical beliefs. Further, when choosing the informants, also their role in the institution must also be recognized. The information and level of specific knowledge can be very focused, and it is common to customize the frame of the questions suitable for the person who is being interviewed. (Alastalo & Åkerman 2010, 378.)

I conducted four semi-structured theme interviews with the following professionals of the Faculty of Fashion, Clothing and Textile at Aalto ARTS; Associate Professor in Design, especially Fashion Research Kirsi Niinimäki, Adjunct Professor in 3D Surface Design, especially Textile Materials Maarit Salolainen, University Lecturer Anna-Mari Leppisaari, Head of Soft Material Studios, Workshop Master (Sewing) Sari Kivioja and Workshop Master (Woven Fabrics Studio) Tiina Saivo. Workshop Masters were interviewed together, all other interviews were made individually. The themes of the interviews with the Workshop Masters were linked to studio practices and the questions were tailored because of their unique role in the faculty.

Questions were constructed from the framework of the study and the focus was kept strictly on them. I posted questions by e-mail beforehand to the informants in order to give them an opportunity to orientate to the meeting. In all interviews, there were few questions that were not asked exactly as planned, because the answer had already emerged within other questions. The questions were same for the two lecturers, but were asked a bit different order. All the interviews were in Finnish, since I wanted to make sure that every participant can express themselves properly, without any feeling of insecureness caused by language. Using the native language usually makes people more relaxed and comfortable. All interviews were recorded.

Themes of the interview for Professor Niinimäki were: 1. Pedagogy (seven questions) 2. Developments of the Faculty (nine questions) 3. Learning Environments (eight questions) 4. Fashion (six questions). (Appendix 1) Questions of the pedagogy were focused on the central points of the teaching, collaborations and different demands of the pedagogy. The development of the curriculum has significantly impacted the FaCT for over the past ten years, which is why the interest was on those changes, and reasons behind them. Learning

environment were focused on because of ever increasing digitality, but also because of the special requirements of studio teaching method. The fashion -theme was approached mainly from its conceptual nature, since its strong systemic influence exists on the field of design as well as other cultural artifacts.

Interview themes for Professor Salolainen and University Lecturer Leppisaari were equal to those findings on Sawyer's (2017, 2) study about teaching creativity. Following themes were emergent when operating pedagogigally on the art and design disciplines and mastering the creative process: 1. Classroom practices 2. Project assignments and 3. Learning outcomes (Appendix 2). There was a practical approach to these themes, with questions (total 36) such as what are the concrete steps towards material experimentations, how students are encouraged, scaffolded and directed, what kind of reflection there is asked for during the process and what are the key elements on creative problem solving methods etc.

In The Faculty of Fashion, Clothing and Textile, there are five soft material studios with full time Workshop Masters (i.e. Studio Masters) being in charge of each studio. There are studios for knitting, weaving, sewing, pattern making and printing/dyeing fabrics and all of them are in use of any student from any faculty of Design department through the reservation system. For my thesis, I interviewed Workshop Masters Kivioja and Saivo together, and themes were: 1. Studio practices (7 questions) and 2. Roles of the Workshop Masters (11 questions). (Appendix 3).

I wanted to hear about the daily practices with materials, machinery, co-operation and supportive methods with lecturers and students and things they are generally coping with. It is obvious, that these professionals have a very essential role in the studio setting. Their work and care of the studio space, machines and accessories basicly enables facilities for all those material experimentations and students' opportunity to focus on their projects, as well as teachers' opportunity to concentrate on guiding at design assignment and pedagogical level.

6.3.2 Studio observations

The observations enable the collection of direct and immediate information from the certain group of people, their practices and communication. Combining interview and

observation methods is usefull, since the researcher can compare the collected data. By observing, it is possible to see, if those possibly ideal standards, that were mentioned on the interview, are put into practice. The type of the observations in my study can be called strict observation, or non-participative observation. In this the researcher does not participate in studio working, but tries to stay in the background being rather invisible and writing notes of what is observed. The field notes are made to help the researcher to think, remember, analyze and report (Grönfors 1985, 90, 137., Kananen 2014, 80).

During the time of data collection, there was very limited set of courses to choose for my research purpose. From the end of February, there was a new weaving-workshop 'Woven Fabrics Design' coming up. The first observation took place on 27th February 2018, taking three and a half hours from the beginning of the session, from 9.15 AM. That was the time the teacher was available for the students. The afternoon was for independent work with looms. Further, the weave-studio is situated in the seventh floor of the building, opposite of sewing studio, and there were about twenty pieces of handlooms and in total ten students participating on that day. The group of students consisted mostly of second semester BA-students, either Fashion or Design programs. Everyone had previous studies in woven fabrics design. The workshop was facilitated by a substitute teacher together with Workshop Master. The teaching language was Finnish. The assignment on this course was to develop a lifestyle-collection of woven interior or clothing fabrics (or combining both) related to theme 'Colour Journey'. (appendix 4: example of the course assignment for the Woven Fabric Design –course, in Finnish).

My second observation – total five hours – took place in the fabric print studio on 28th February 2018 starting at 9.15 AM. The ongoing course was called 'Advanced Printed Fabrics Workshop', which consists of six contact teaching sessions, and all students had individual design projects as an assignment. Everyone attending had at least 1-3 courses previous fabric print or dyeing courses completed. There were 11 students attending, and teaching language was English. The Workshop Master was not present at that day, but the teacher was one of my interviewed informants. The studio-teaching session was constructed so, that first, in basic classroom, there was a informative lecture of 45 minutes about what the technics group was going to experiment that day, and after a short break, group tasks and individual rehearsals were done at printed fabric studio spaces during rest of the day.

6.4 Content analysis

Theme interviews and field observations produced rather great amount of data. In qualitative research, theory and empirical observations as facts should be examined as collateral, instead of distinct processes (Grönfors 1982, 151). I accomplished qualitative content analysis with theory and data-driven method. Analyse progresses inductively from individual observations towards the compressive, theoretical form (Eskola&Suoranta 1998, 83., Tuomi&Sarajärvi 2002, 95). However, former knowledge is recognized, and it is supposed to lead new ideas and paths of thinking (Tuomi & Sarajärvi 2002, 98). The central concepts of the thesis are guiding the content analysis (Hirsjärvi 1993, 114-115). Interviews were constructed around certain themes, defined from theory of the studio model, and related to the research question. This was done because of aim to border the phenomena as manageable entity. During the analyse process, themes were constructed again simultaneously, led from the observations discovered from the data.

I started analysing the data with transcribing all the recorded four interviews. Total 57 pages of text was formed as word-documents. Transcribings were done exact word-for-word. This working period enabled myself to effectively familiarize with the content and topics discussed. I handled the interview-data of the lecturers at the same time, because theme questions were same for both of them, and they were lectures of the same disciplines and using same methods. Next I read through the texts and wrote down notes of the main message said about each theme. After that, I started reducing the amount of data with qualitative data analysis software Atlas.ti. Before starting analyse, the unit of analysis must be defined (Hirsjärvi 1993, 112). As the unit of analysis I used group of thoughts, that could consist of several sentences. I chose phrases in which the content was essential or relevant for my research question. I marked quotes and summarized them as codes, or compact phrases. This stage of analyse, where the coding system is created, is concidered as first-stage coding, and it works as descriptive-level analysis. The aim and purpose must be defined here for the whole process. (Friese, www.atlas.ti)

From the data of the two lecturers, my focus at this phase of coding was to ask, what kind of issues appear concerning studio teaching practices, conceptions of creativity and pedagogical arguments. By categorizing the codes according to the similarities found in

their content, I made sub-categories. In the used grouping unit there was a conception or a method. There were 14 sub-categories in total as shown in *Figure 1*.

The next stage of the analysis is concidered as conceptual-level analysis, and it aims to take noticed contents towards more abstract and theoretical level (Tuomi & Sarajärvi 2002, 114). By combining sub-categories, I created conceptual categories. Categorizing of the groups at this point, means that the data was reduced even more. Conceptual-categories derived were *Constraints in assignments, Flexibility in assignments, Creative process, Project management, Learning process, Creative approaching and Technics as servant.* Conceptual categories formulates further main categories, that can be concidered as a summary and conception of the results of the analyse. In relation to studio pedagogical elements examined in this thesis, the main categories ended up to be *Concept-based assignments, Emphasizing processes* and *Material experiments*. (*Figure 1*) I grouped *Pedagogical views* as its' own category, since they are linked in multiple sub-categories. In searching final synthesis, I linked them in the group of *Vision* when composing the unity of reguirements in order to operate studio pedagogy. Other groups related to those requirements are *Structure, Resources* and *Space*.

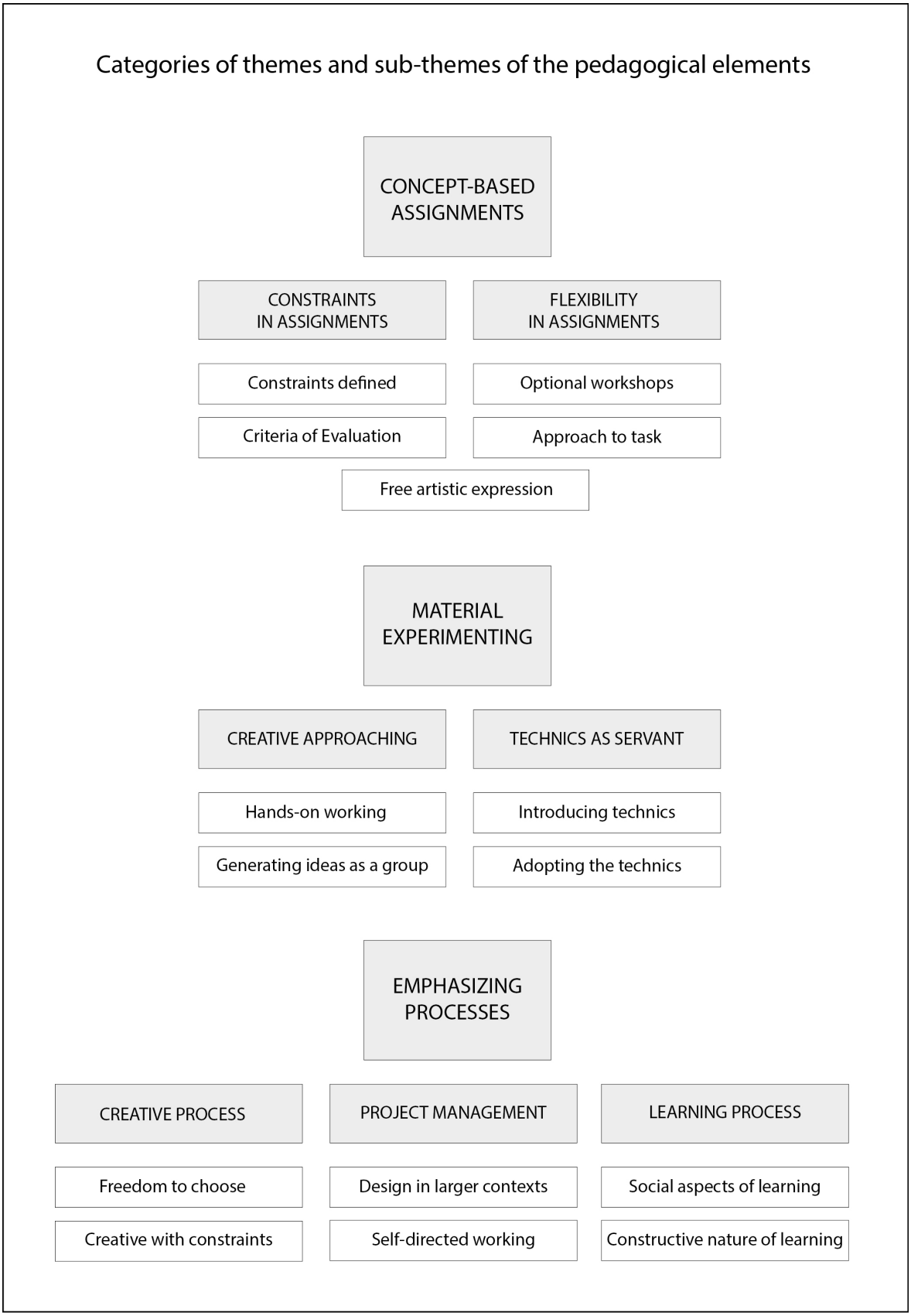

Figure 1. Categories of themes and sub-themes of the pedagogical elements

Interview-data of Studio Masters and Associate Professor were handled as individual documents, as their theme questioning were distinct. Interviewing of Associate Professor in Design, who is also Head of FaCT MA and Fashion BA –programmes, offered data material concerning the strategy of the University and details about organizing the range of courses for students. There also emerged lots of views about pedagogical issues, future visions and variety of practical challenges to handle. From this data, I derived main category as *Pedagogical balance,* consisting of sub-categories *Resourcing* and *Learner-centerness.* Another main category is named *Future visioning,* consisting of sub-categories *Collaborations* and *Strategical directions*.

Studio masters are essential part of the studios and enable fluent pedagogical and practical work. When analysing the data from the studio masters interview and field observations, I focused to look at their work roles related to students, lecturers and the studio system. The main categories derived were *Guidance* (related to students), *Planning* (related to lecturers) and *Maintaining* (related to studio system and environments). Guidance consists of *Group coaching* and *Individual help*, Planning consists of *Time management* and *Studio sessions*, and *Maintaining* consists of *Responsibilities* and *Monitoring*.

According to Tuomi & Sarajärvi (2002, 110), analysis is done in every phase of the research and the main purpose is to create clear and explicit description of the research phenomena. In ethnographic research, analysing during the field sessions means focusing observations toward issues, that are seen relevant for the research setting. In this thesis, field observations occupied a minor role, but by conducting them I gained authentic information that I used composing and interpreting the overall picture of the phenomena and studio practices.

The observations were analysed as their own specific group. The analysis was done by reading the field notes and finding and categorizing notions related to teaching practices and time management. In abductive process of analysing, central concept is linking own observations with the guiding principle (Grönfors 1982, 33). In relation to my field observation sessions I assumed *time* to be as one of the central principles in studio teaching. Thus, I wanted to focus especially on time management and how the topics and assignments were situated in certain time framings. That can be experienced in very detailed level when using observation as a method. Time management is also closely

related to teaching practices, so these two areas were natural to be observed. There would have been a good chance also to pay special attention to the environmental and space-related issues, but as being aware of the fact, that the whole faculty is about to move to the new campus area after current semester, it would not have been reasonable to concentrate on that.

Observation sessions produced total 22 sheets of hand written field notes. I started to analyse them by reading the texts and simultaneously creating groups of the notions concerning *Time, Teacher's practices* and *Studio master's role*. Inside the group *Time*, there arosed very focused practices of both teacher's and studio masters's work. Both teachers' and studio masters' practices were situated naturally in categories of *Being an informant* and *Being a peer inventor*.

7 RESULTS

The aim of this research was to find pedagogical elements, that are cultivated most when practicing studio-based teaching method in the Faculty of Fashion, Clothing and Textile Design at Aalto ARTS. The study is focusing on the textile design course practices. I examined also the arguments, by which the certain pedagogical actions and practices have been chosen. These pedagogical views are described further within their contexts. I summarize the main requirements, that are demanded to operate studio pedagogy. In addition, a description of the studio masters' essential role in enabling everyday studio work is included in the end.

7.1 The main pedagogical elements and views

Findings of this study address, that one of the most distinctive pedagogical element are the course assignments, which include a requirement to start the creative working process by thinking and constructing the *visual research, and the concept* of the forthcoming collection. Putting special focus on these early phase efforts are seen a key to achieve originality, and innovative results. Material explorations are in essential role, and the creative and individual approach to them is a practical consequence of the concept done at the first phase. Processes such as creative and learning processes are seen the most important learning outcomes, although successful material artefacts are naturally an important sign of the development of the skills and thinking. Preparing students to become design

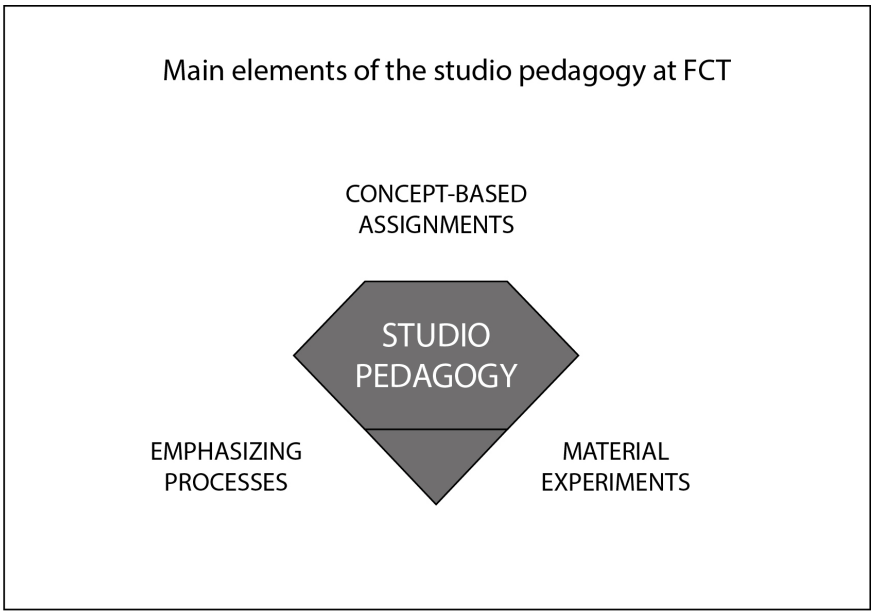

Figure 3. Main elements of the studio pedagogy at the Faculty of Fashion, Clothing and Textile at Aalto ARTS.

professionals, project management skills are especially practiced with longer-term workshop-courses, or advanced courses, which requires lots of self-directed and independent work, planning, and decision-making. The main pedagogical elements are shown in figure 3.

7.1.1 Concept-based assignments

Constaints in assignments

The aim of the textile studies is to develop design thinking skills, with which students are capable to create innovative and appropriate fabric collections, with fashion or interior textile viewpoint. Design assignments are defined by the course instructors in charge and they are formed in order to meet the learning targets of the course discipline. The findings of this research indicate that the assignments have a certain structure, and all demands concerning the final work – which can be for example a concept collection of fabrics represented by finished fabric samples – are described and discussed through carefully together with the students in the beginning of the course. Also learning targets, timetable and evaluation criteria is confirmed and discussed with the group. The major idea on the assignments is that students start with smaller, more 'ready-framed' assignments, and further on, the freedom for own choises and concentration on one's own interest-areas are strengthened and design tasks are combined together for larger entities of the studies, yet within the frames of the learning targets of the current course.

Theme of the collection is usually given, to help students to frame and start their process. Collins et al. (1989) and Fortune et al. (2004) have made definitions of good design tasks from the educational perspective. There must be feasibility, rich content related to professionals' habits, real-life context, and they have to be interesting and exciting to the learner. The authentic learning activity is coherent, personally meaningful and purposeful within a broader social and cultural frame. This means understanding of the value of their actions. (Kangas, Seitamaa-Hakkarainen, Hakkarainen 2011, 163.) Cennamo and Brandt (2012, 851) showed in their study, that when assignments were similar for each student in terms of goals and context, meta-discussions, listening-ins and opportunities for sampling were enhanced. Students could more easily generate substantial dialogue and reflective in-class discussions. The lecturer interviewed for this research described the assignments as following:

...there are especially at the BA program a very clear and structured assignment, and instructions, that works pretty well, they also in a way need that, and then at MA program they learn more like creating their own instructions for themselves, and especially that project management; managing the design process. But in those too, I give always precise instructions, what are the technical demands of the work. (AML)

Both of the lecturer-informants agreed that constraints and frames are essential in the assignments. In the courses, they are often related to time, material sampling (size, quantity, presentation, sometimes material itself), forms of the presentation or final critique manners. According to Sawyer (2012), design tasks need relevant constraints, as too much openness may lead to traditional and familiar ways of making, and reaching of the learning outcomes would be too challenging (Laamanen 2016, 18). Any creativity is proposed to involve the dynamic tension between certain structure and freedom (Henriksen et al. 2016, 15). Same kind of views emerged from the data. The lecturers described how the design task often is expected to be examined through the contrastive approach, or alternatively one can design two different collections, presenting 'two different sides' of the collection. This is seen important detail in order to give a structure to the collection. Thus, free choises and constraints in the assignments always go together. (Appendix 4, example of the course assignment for the Woven Fabric Design -course)

Traditional product design tasks are typically aiming at tangible artefacts. At the learning context in the FaCT, they can be for example a fabric sample collection or a fabric produced for specific purpose. The given assignment is a trigger for the design process, which is expected to start with certain actions. One distinctive demand portrayed by the lecturers is that in the beginning of the course the students put significant effort on creating *the concept* of their becoming collection. The concept requires that the visual and also a kind of emotional research has to be done first, it is presented as a moodboard, and further it will act as the individual principle tool to guide students through the whole design process. By creating the concept, the student aims for finding the core idea and the mood for the forthcoming design work. Also according to Laamanen (2016, 56), one or few kernel ideas work as the designer's own point of view to the design task, and the process is also being relevantly framed and guided by that .

The above described phase of the design process is about searching and arranging interesting features and ideas, and arising curiosity. The idea, defined by Ben Jonhson (2005), is a ”basic element of thought that can be conceptual, visual, concrete or abstract in nature (Laamanen 2016, 12).” Hence, the visual moodboard actually has many proportions. In the recent dissertation of design ideation, Tarja-Kaarina Laamanen (2016) has described the creative ideation phase as multimaterial and modal process, where mental images (internal representations) and materiality aspects are manipulated to produce novel ideas and associations. Collecting, sketching and experimenting are found supportive actions to find triggers for ideation. This can be described as generating and transforming representations and objects of the material world. Those external sources of inspirations combined with internal memories and experiences foster the potential for uniqueness. Thus, when scaffolded, motivated and given enough time, also novice designers are capable of improving their ideation skills (Laamanen 2016, 50-53). Also this present study shows that putting lots of time in creating the concept, is seen to be the key to the most original and authentic final work. Among the lecturer, the concept can not be a selection of influential fabric samples, but there is expected to be seen a unique storytelling, with an artistically expressed emotional aspect and – literally – the mood in it.

> *This practice-based pedagogy – it is all about… that you are having first the concept --- we can not just arrange some kind of summer courses in order that they learn it (weaving, knitting, printing), but they will go there with the visual research, which is done for some specific course, or which is done just for the ongoing course. They are going to weave there, because the visual research is 'saying this', and the visual mood in their collection will be 'like that'. And we do – like from the very first course, when they even do not know what is the warp and weft, or they see the looms at the very first time – they start to make a collection – and their visual research is in front of them… (MS)*

The concept is in itself a creative presentation and works as a medium for arranging one's mental images and helping orienting towards the material explorations. In design research, term design concept is usually defined as a finished proposal, whereas initial design idea is concidered as ”an original thought or material representation that will be tried and tested (Laamanen 2016, 13).” Initial thoughts or materials are generated through graphical, material, verbal or mental approaches (Laamanen & Seitamaa-Hakkarainen 2014, 211). As

interpreting the data, making of the concept can be described as composing the ideas and representing them as a visual map, by which own process is structured, and which helps describing own aims and visions for the teacher and the peers.

Interesting detail noted from the interview is that the moodboard, as a tangible work of the visual research, is not accepted to be presented in a digital mode. As I interpret, that restriction can be seen as honouring the traditional aestethics of representing ideas and it can be associated with importance of the tactile experiences as well as materiality. Scaffolding and discussing during the work in progress, and group reflections, are probably more practical to handle, when the concrete moodboard is at hand. Constructing of the visual research is taught also in a short specific course, to offer students also from other design faculties an option to approach design tasks with the same method, which is commonly used in professional fields of textile and clothing design. Regarding the presentation of the work, both lecturers added that the students are pushed to present their collections in a professional way. Every decision student has made in the final work must be appropriately argumented. This is seen important as the school prepares design professionals, and it is necessary being able to express one's ideas also to the different stakeholders and people from other disciplines. In addition, all design decisions should support the storytelling and the concept created for the collection.

In the FaCT, the studio courses aiming at the collections with hand-made fabric samples are accomplished in a restricted timeframes. This effective modular-based method enables studios to be in use of greater amount of students, also from other design faculties. Textile courses are intensive three or four weeks modules, and the idea is to give a chance to deeply concentrate, and work with the projects for several hours per day. Among all the informants, the intensivity is concidered a crucial thing in studio courses. On the other hand that means, work must go on and proceed fluently. There is no time to stuck and endlessly refine single details.

Flexibility in assignments

The Master's studies are conducted by following students' own tailored curriculum. There is lots of flexibility in courses, as well as assignments inside them, and less of so called contact teaching. On that phase, the students are seen to have much more metacognitive skills in order to proceed with their projects, and handle their own studies in general. Those

skills are associated with, for example, decision-making and developed ability to recognize and improve their personal skills and interests. Voluntary workshop-type courses enables students to choose their topic, or theme, to fit in their personal projects, and the processes can be handled very independently. More experimentations can be done, concentrating on a specific technique, and producing of bigger amount of fabrics for the collections (such as thesis collection) is common. Some workshop courses can last for longer period of time, for example a whole semester.

The design problems are concidered ill-defined, dynamic, authentic and complex (Cross 2004). The design problem must also be framed (Schön 1988); the designer sets its boundaries and selects particular things and relations for attention. However, it is pointed, that work of framing dominated not only at the beginning of the task, but also re-occurred periodically during the work. Designers often change the goals and constraints, but they are seen to hang on their principal solution concept for as long as possible. (Cross 2004, 432-433) That is appropriate especially during strictly scheduled courses with the concept-based start as there is not limitless amount of time for the iterative cyclings.

The assignments must be open-ended enough, in order to offer students an authentic experience of the creative process (Sawyer 2018). During the basic courses with a given theme and assignment, freedom means the design task is always approached individually. Starting point for the material experimentations can vary; a photo, a poem, a feeling, something picked up from their own concept. Both lecturers emphasized that the style of the artistic expression of the final collection representations is unconstrained, as far as it has a connection with the concept. The student's own visual research directs to choose and develop variations of certain techniques, fitting for their own final collection.

On advanced courses, students can choose either fashion or interior textiles as a viewpoint of their collection – or even both. Also art textiles can sometimes be on focus. Voluntary elements in assignments are encouraging learners to develop original design ideas, but they also have a motivational aspect. The collected data indicates clearly that the students are deeply devoted to their projects. Along studies of intrinsic motivation, the pursuit of optimal challenges (i.e. not too easy and not too difficult) can maximize learner's sense of competence, and are seen as a important precondition for enjoyable and intrinsically-motivated actions. Attentional involvement is a feature of enjoyable and goal-directed

activities, which demand high concentration and intense involvement. (Abuhamdeh & Csikszentmihalyi 2011, 257-258.) Therefore, although strict time frames for studio work could be easily concidered a negative aspect, the present study points that it actually enables students to focus and concentrate, and complete successfully their working process. Furthermore, students can always continue developing their work on the next convenient course.

Intrinsically motivated focus on design task leads to easier mastering of skills and creativity. Among the informants, aiming for originality of the final artefacts is one of the main learning targets in the FaCT. According to Marc Runco, the pioneer scholar and writer of creative research, creativity is crucial to economy and advancement, and it should be one of the explicit objective of the learning and assessment process. Supporting the autonomy and independent thinking, giving assignments with flexibility and choice are the ways to support students' creativity. (Richardson & Mishra 2016, 417.) The analysis of the data indicates that the students' individual approach, concept creation and flexibility in representations are the key elements when fostering creative processes and their outcomes. Sawyer's (2018) recent study showed clearly, that creativity as a process is found the most important learning outcome of studio pedagogy in both art and design disciplines. He also suggests, that learning itself gets more meaningful if the learner is actively participating and able to choose their own path (Henriksen et al. 2016, 15). Sawyer's (2016) view of creativity includes more than just mental aspects; creativity is about ways of being and ways of engaging with the world (Henriksen et al. 2016, 13-18). Students are emphasized to transform exactly those features while working with their visual research. This spacious conception of the soul of creativity leads next towards more concrete phase of the creative process; working with the material experiments.

7.1.2 Material experimentations

Exploring and experimenting materials in the studios is the core action, when aiming at creative and interesting new combinations at textile design. Representing one of the most important part of the pedagogy, it has been discussed also with terms practice-based pedagogy or hands-on pedagogy. "Textile design is about exploring materials and structures, surfaces and constructions (Niinimäki et al. 2018)." With studio-based work, both visual and technical aspects of designing are improved. Through material

experiments, students gain essential knowledge about different production technics, material proportions and features. Materiality is essentially involved also with generating, shaping, concretizing, testing and validating ideas (Laamanen 2016, 13). Materials can work as a source of inspiration, and as a medium to convey designer's intentions. As in crafting, material is a medium of both thinking and concretizing already at ideation phase (Kouhia & Laamanen 2014,14).

After the reform of the curricula in FaCT, textile studios were also opened for other students of the design department. Among all the informants, open and collaborative attitude in design education in general is purposeful and effective way of approaching the discipline. Therefore it is seen rather easy to assume and learn the basics of it, no matter if the textile is a learner's major discipline or not. One lecturer described weaving as a very natural method to humans, as it has been done for ages:

> *...the history of a mankind is full of textiles. Weaving is far more natural to our brains than sitting next to the computer... our brains are developed within weaving technics, and that means, I have noticed, that students need only one day, and they can learn it, learn to express with that technique. Thus the pedagogy is based on kind of a human's natural ability to understand textile. (MS)*

Same kind of notion emerged also from the interviews of the studio masters, who confirm, how students proceed hugely during one week, even if they do not have any former experience of the looms. This phenomena could be explained for example with the embodied cognition theory. Suggested as a form of design thinking, embodiment is seen to play a crucial role when we interact with materials and use or build knowledge of them (Groth 2016). However, in addition to the role as a medium for creating artefacts, materiality includes multiple aspects in creation process, associated with social, cultural and technological phenomena.

Creative approach

Designing of a fabric collection needs a context (fashion, interior design, functional clothing), a creative approach and technical knowledge to craft or produce the samples. As the action theories of creativity points out, creative ideas happen during the work with discipline-specific materials, and most of the creativity emerges while working (Sawyer 2010, 182). As studied, the nature of creativity is related to certain autonomy and

independence of thought. In addition to originality and usefulness, Runco widens the obvious definition of creativity with elements of authenticity, spontaneity and aesthetics. (Richardson et al. 2016, 416). All those elements are explored through handling materials, as hands-on practices in the FaCT clearly address. Interaction with materials deepens knowledge of them, emerges feelings about them, and directs the process. Materials also connects the design to current time. With creative materiality, the maker can play with memories and images, explore cultural and historical features, or visualize futuristic scenarios. The same piece of material can also be explored at several phases, it can be constructed over and over again and tested, decorated or manipulated with numerous different methods.

When examining materiality from sociocultural perspective, it is seen to be dependent and influenced by immateriality, which consists of knowledge, beliefs and values. The complex social and cultural meanings and experiences form our relationship and sensitivity to material objects. (Kouhia & Laamanen 2014, 12.) The lecturers described, how emotions and sensitivity are involved deeply in creative procedures and the chosen materials. Students are scaffolded to interact with their materials, as well as final material samples should ’communicate with each other’, i.e. students need to also explore the messages of their creations and combinations. As suggested, the situated and embodied mind is explaining our material and practical knowledge, as the maker uses his/her embodied preknowledge of the materials (Groth 2016, 4). At The Woven Fabrics Studio, about twenty warps are set-up in advance by the studio master. Type and material of the warps are planned by the course instructor, weft materials are free-range. As reported, students work at the studio with their visual research, from which they pick, for example, a piece of text or a photo as a starting point for experimenting, or just choose a certain yarn to start with. Weaving is then a medium for storytelling; expressing the feelings, atmospheres and visions. Embodied knowing can be developed and excercised only through making. Carter’s (2004) conception of ’material thinking’ explains, that also physical materials become active through the maker’s intelligence operating in creative process (Nimkulrat 2012, 3). Runco (2014) defined divergent thinking being needed with design tasks, that have multiple or infinite solutions (Laamanen 2016, 11). Design thinking practiced by the looms, is definitely creative, embodied and divergent in nature. The instructor spoke about approaching the material experimenting as cited below:

I always emphasize that listen to that warp; listen to those materials and kind of accept the warp as it is, and then, do not try to fade it, but try to work with it like you will make it work the way you want it. And that is the way we get those new ideas, and those amazingly great innovations, with those weave structures and materials. (MS)

Regarding of the references of previously done cource work, the lecturers pointed out that they are usually not displayed until the middle tutoring. This helps learners to achieve originality, and on the other hand liberates them from pressure. However, when references are finally shown, it is concidered a way to positively encourage students to achieve even more unique outcomes. What is important is that the references are different enough between each other.

And then one extremely important thing is –when you asked about how these students will become so good– is the idea of getting cumulatively better, which demands, that previous course participants come and show their best work done at the same course. (MS)

Technics as servants

The study shows, that technical aspects of designing textile fabrics are in service of constructive learning and increasing creativity. There is no aim to become an expert on certain productive methods, but to achieve basic (and further on also advanced) disciplinary knowledge in order to produce concrete artefacts, and develop own skills and ways of expression. By teaching technics, the domain knowledge is constructed. According to Beghetto (2016, 8), domain knowledge is essential in aiming to creative solutions, and important aspects as well are, how accessible the knowledge is, and how it is beneficially put to use. Beghetto proposes that accomplished creators know how and when to use their knowledge during creative process, and further, with domain knowledge a balance between originality and feasibility can be achieved, which are concidered requirements for creativity.

One remarkable aspect is that starting the design process with the visual research work and continuing the ideation at the studios by hands-on working, is seen as a more effective way

to assume also technical side, than for example focusing on theory lectures at the early phase. About a decade ago, before reforming the textile education, textile theory and design were taught separately, and with that method it took years to assume different woven structures, and designing was just a one distant part of the whole process. By integrating the technical and the artistic side of design in the same course and assignment, a significant amount of time is saved, and learning and teaching in general is made more learner-centered. (Niinimäki et al. 2018.)

The artistic expression and the technical work as a medium to produce the artefacts are like two sides of the same coin. All the informants agree that understanding of the technics is very important, as it associates with the professionalism, the constructive nature of learning, and proceeding with one's studies. Designers must be capable of communicating and discussing the productional issues with appropriate vocabulary of the topic. Basic technical skills are learned through concrete day-to-day working in the studios. The aim is not to teach students to become masters of weaving (or other specific technic), but to become the designers who also understand the production processes and are able to evaluate and compare different possibilities and their consequences.

In practice, the instructors or studio masters first demonstrate the basic possibilities that can be done with the machines or instruments. Students then make small trials of the basic techniques and then begin to make experiments and variations of their own choice. Larger sample swatches are required only of the designs that will become part of the final collection. Sometimes references, meaning at this point technical 'information -cards' and sample swatches, are shown at the earlier phase, if some starting problems possibly occur with a certain warp. Assignments of the fabric collections also include a demand of showing the detailed structures of the produced samples, presented in a specific formula (information-card), as fabrics must be able to be reproduced later, if needed. Technical information-cards are also collected to be stored as references for the next course participants.

It is indicated that practice-based working immediately fosters students' understanding of weaving. The compulsory and intensive courses of materials and structures also for fashion and clothing students is seen very advantageous. As also Groth (2016) suggested, through embodied material explorations, learners immediately get information and they can form

mental images of an envisioned design already at the early phase. Among the studio master, by reflectioning the technique, students evaluate whether the technic is realistic or suitable for their purpose or the surface and structure is strong enough, or if the weaving process itself appears too slow or unrelevant. In addition to practice-based work, many courses include few classroom lectures, which are about certain computer programmes tailored for the topics, or informative theory-lectures (mini lectures) about the methods to be used at the current course. For example, fabric printing includes lots of chemicals and working at the printing or dyeing studios requires not only commitment to the safe and sustainable working methods but also very important knowledge about qualities and actions of the numerous chemicals. As observed, when starting the printing trials, the material preparations are done as a small group-work, the instructions for the agent-recipes and methods are learned together before gathering in the studio.

7.1.3 Emphasizing processes

Learning and practicing to become a professional designer is about engaging with processes. In this chapter, I describe the main elements found in creative and learning processes, which are analysed as the elementary basis of the design education. Several creativity scholars have a consensus that learning seems to always be a creative process. Guilford (1967) claimed, that learning and creativity can be even seen as the same phenomena. Later on, the concept of *creative learning* is suggested to describe the overlap of the both phenomena. (Beghetto 2016, 8-9.) Learning also has very strong social aspect, which is described further on. Learning the complete project management is specialized as its own important learning target, which is related to assume professional skills, manners and conventions.

Practicing of the studio pedagogy is fundamentally based on the concept of the process. The data indicates that the pedagogical idea seems to be that materials and their features as well as structures of the fabrics, are best learned through concrete experimenting, and analyzing them with the peers and the teacher. The aim in process working after all is developing of the professional skills, and the whole process is evaluated in the end of the course. Priority skills taught are those which ”lead directly to the essence of textile design – the interplay of different materials, structures, and techniques as well as collection building (Niinimäki et al. 2018).” Regarding the concept of design thinking, situated and

distributed cognition has also been investigated lately. Interaction with material, social and cultural environment is the base, where creative ideas are emerging from. Kirsch (2011) proposed that creativity needed in design thinking is 'a socio-technical process involving resources, other people and body-based, multimodal activity'. (Laamanen 2016, 11.)

Creative process

The design tasks and assignments, whether given by the instructor or the client, or defined by the learner, offer a platform for creative efforts and set the frames for the becoming design process. Creativity requirements are listed as intrinsic interest, autonomy, flexibility, different perspectives, original thought, divergent thinking, problem discovery and self-expression (Richardson & Mishra 2016, 417). Creative process is the core and requirement to achieve the learning targets. As Sawyer's (2018, 156-166) study indicated, mastery of the creative process itself can be seen as the primary goal of art and design education. Students must be sufficiently challenged conceptually; otherwise they choose a familiar path and wouldn't be engaged in a deliberate creative process. Thus, a good assignment means that good ideas are emerged from the process, they are not found at the beginning of it. Students are encouraged to generate many possible solutions, fostering their *divergent thinking* and *flexibility*, which are also associated with greater creativity. Features of the creative students, and meaning of the processes are described by one of the informants:

> *It is curiosity, that one has courage to experiment, to challenge oneself…that one dares to step to the other side of his/her knowledge, that one would not stay at the confort-zone --- these are processes, and the learning happens with the process, and the outcome is not the most important thing, as there can be very big failures also, but the student has learned an enormous amount of new things by that. (KN)*

Creativity can be fostered with practicing open-ended assignments, as well as setting severe constraints. For example, in advance planned and set-up warps and time limitations are recognized as beneficial constraints.

> *According to our pedagogy in the first woven fabrics courses, the students do not set-up the warps, because in the industry, you must be able to work creatively with the standard warps the mill has. (MS)*

The present study indicates that studio pedagogical learning situations of the FaCT involves students to simultaneously explore the ideation, designing, and understanding the technical details of the fabrics and production. With this method, students learn to work with parallel processing, which resembles the way experts are designing. Seitamaa-Hakkarainen & Hakkarainen (2000, 48) have defined parallel processing being about considering and integrating both visual and technical aspects of a design problem in a given period of time, in contrast to novice designers, who work more as the way of serial processing. They suggest, that likewise many other problem-solving areas, weaving design process and the ideation are operated through interactive problem spaces; composition of visual elements, i.e. shape-, colour-, material- and pattern design, and construction of technical elements, i.e. texture- and production procedure design. Thus, the learning and teaching of textile design demands efforts in both two problem spaces, such as also noticing certain limitations, which are helping to handle the project, as stated previously in this report.

Overlapping and recurring phases of the dynamic creative process can be defined for example as following; *preparation, incubation, insight*, *evaluation,* and *elaboration* (Csikszentmihalyi 1996, 79-83). Engagement in the process is crucial, and in creativity research *the problem finding* is the concept that leads to greater creativity. An authentic experience of a creative process provides progressive iteration, working with materials, solving appearing problems and also failing and working through that failure (Sawyer 2018). As analysed, the visual research and the concept, which is done first for most of the course assignments, is setting frames for starting the creative process. The visual research itself is certainly one demonstration of the learner's creative thinking. The outcomes and design decisions of the collection are evaluated in relation to the concept; its spirit, the story, the purpose. Therefore the effort put on this preparation, or ideation phase is obvious. As there is no way to predict the creative process, students constantly interact with their concept. According to all informants, freedom to fail and try again is seen very important, and searching for the new insights is encouraged. There is no assumption that everything must be finalized perfectly.

As pointed out earlier, design process is not linear and creativity needs concentration, time and certain discipline-domain facilities. As the working time is limited, there is no chance to stay at certain phase for too long. Students are often competitive, enthusiastic and

sometimes aiming to perfection with their work. Therefore it is important to discuss the reasonable amount of effort. When some basic courses are mostly for learning different techniques and possibilities of the machines, then there is no need to work all night long for few credits. This phenomena can be linked in study skills in generally, which are developing through the years. The lecturer describes the challenges that may occur sometimes:

> *...there was a group, that was extremely motivated, very talented, really good students and a good spirit and supportive to each other --- and they just worked far too much after all --- they need to learn to put their effort into perspective, there is no aim to burn them out, and that is a challenge here, where both the students and the teachers are motivated and want to aim at the best result, but then we have to remember that in every points that is not necessarily appropriate, but to notice the important point in there, yes, to see what is enough. (AML)*

In collaborative projects with different brands, the design task has its guidelines, but pedagogical basis is kept as the most important content. Workshop-courses offer a possibility to search for personally interesting areas in studies. Among the studio master, usually working in the studios start with plenty of ideas, and only few of them will be realized as final products, and this is seen a natural part of the creative process. Different courses during the semester can be conducted as individual, purely experimental projects without any special link, or course tasks can be designed around some bigger project, for example a BA- or MA -thesis collection. All the informants admit that working hours especially for larger collections are long and students are very ambitious and deeply involved with their working. Studios are free to use also in the evenings and weekends, as far as the student has a valid working permission. In addition, among the lecturers, one course demand states that the creative process must be visible in the presentations of the final work. As there is always a personal approach to the assignment, it is concidered important, that the path of the thinking is visible. That is seen important also from the professional aspect; the possible clients often want to see how the designer thinks and has ended up to final design solutions.

Learning process

The central thought behind learning design knowledge is that most of it is tacit (Polanyi 1966) and socially and materially distributed, and because of its non-transferable nature, it can be learned only through personal and joint experience with iterative cycles of activity (Kangas 2014, 72). Social and constructivist aspects are emphasized in learning processes. When related to creativity, one of the central pedagogical views are, that students working at studios as a 'good group', are more creative. The lecturers seems to be convinced that learning is more effective when unified group of students communicate positively and supportively, being devoted with the ongoing task. Part of the process and the evaluation, is the learners' general attitude and enthuasiasm at the course. How one behaves as a group member inside the learning community is seen very important. Students are clearly encouraged to share their ideas and insights from the very beginning of the process. Good interaction with peers means possibility to discover and generate the ideas during working, as described by the lecturer:

> *...pedagogy is based on that group of students are put together to find out and discover those things, as if learning by themselves. They are delicately feed with those details, but they are so clever, they are so talented –these students of ours– that they will proceed then with their creativity. (MS)*

This kind of pedagogy is strongly supported by socio-cultural theories about learning, which also concerns creativity. Creativity is then seen as social and group process and collective thinking is mentioned to emerge from intensive working periods in the studios. Socio-cultural theories of learning propose that learning can result in collective knowledge building and that collaborative construction of the knowledge leads to better learning outcomes. (Sawyer 2004.) Further, socio-constructionism as a learning theory emphasizes the communal nature of knowledge. Learning and understanding are constructed by social interaction and commonly accepted interpretations of the world around us, not to forget critical thinking and influences of culture and society (Kauppila 2007, 87-88).

Among the lecturers, sometimes reaching confidence and feeling safe to express one's own thoughts and ideas is not concidered easy; group dynamics can vary a lot. However, students do not need to feel jealous or possessive about their ideas, because everyone is having his/her own concept and own story in their work. Therefore all samples and final

works will have their originality and refined form in any case, no matter if same technical discoveries are used.

It is easy to assume that no-one can be creative using the technique or the equipments for the first time. Thus, an interesting notion that emerged from the data is that when starting to weave material experiments, the ones most stucked with their samples are usually the students with previous experience of weaving. They need more to change the way they are used to think; they need to open their mind and give up some previously absorbed rules. Therefore, students attending studio-courses from other major study disciplines or cultures, are highly appreciated as group members, as they do not have any fixed mindsets before starting the work. Kangas (2014, 73) cites Page (2007) about diversity being also showed to overcome ability; heterogeneous but competent group can together solve complex and open-ended problems systematically more effectively. That is based on the diversity of perspectives and interpretations, the ability to different thinking in general. On middle tutorings and during the studio work, all students with feelings of disbelief, are helped to find a solution and go forward. It must be remembered at this point, that mistakes and failures are naturally accepted as inevitable part of the creative process. At those moments of disappointments, advancement in learning is taking place.

Constructive learning is seen as a natural way of gaining knowledge and developing skills. Learning takes a progressive mode when first familiarizing with simple technics and proceeding towards more challenging ones. According to Beghetto (2016, 7-8), many scholars agree, that constructivism needs domain knowledge, which is essential for creativity. New knowledge is constructed and previous experiences or facts are used. However, there is also evidence that too much formal schooling can be diminishing in the context of creativity. People may become too fixed in their thinking and that obviously affects negatively in their ability to generate original solutions.

Tutoring and the final critique sessions are seen very important part of the learning process. Group and individual tutoring are arranged in the middle of the course. By the discussions and analysis, students are helped to evaluate their own process, realistic aims and the timing. At the critique, the students are encouraged to discuss and comment, always with argumentations, of peers' work. Among the informant, evaluation and

commenting the others' work is not concidered difficult, as the studio courses are constructed with a certain 'common thinking', that emerges from 'the spirit of doing'.

According to Beghetto (2016, 13), when constructing socially compatible knowledge, it is important to share and discuss work in progress, as well as receiving feedback of the final works. Students can test their ideas, discover their strenghts or limitations, develop confidence and competence. Among the studies, creating the confident and safe learning environment and atmosphere, the role of the instructor is crucial. Teachers' role in the learning process is to scaffold students to assume skills, with which they feel safe to step to the field of design professions. The most important skills can be seen related to creativity, understanding of domain-knowledge and social interaction during the processes. Learning experiences are communal in nature, although students are also met individually and instructioning methods are adapted. The instructor can recognize the different learning types. For some people, thinking visually feels more natural, whereas some others learn more constructural and mathematical way. This is also why the concrete approach to experimenting must be kept open-ended enough. Among one informant for this study, it is important for the instructor to accept that in order to create great collections, the learner does not have to think same way like teacher does. The constructivist learning experiences are offered by the creative teaching methods (Henriksen et al. 2016, 16). Creative teaching is related to teachers as expert professionals of their discipline and being autonomous with their methods (Sawyer 2004, 12). There is research evidence, that experienced teachers are able to balance their structured disciplinary knowledge and in-the-moment flexibility. (Beghetto 2016, 15). Teachers should also adjust their expectations concerning the learners' stage of studies and the concept.

It is evident, that learning by doing (Dewey, 1938) is the crucial learning philosophy found behind the everyday studio practices. Dewey suggested decades ago that discipline-domain knowledge is best being taught through the making and practicing. There are discussions about whether creativity can be taught or not. According to studies conducted within higher education, creativity does not develop spontaneously, but it has to be specifically addressed as a topic (Hokanson and McCluske 2016). Most of the creativity is proposed to occur while doing the concrete work with (authentic) materials (Sawyer 2010, 182). Emerged from the present research, teaching of creativity is done by providing facilities, introducing methods and possibilities and supporting learner at the several phases during

the design process. This can be affirmed by creativity studies, in which professors assume that they can not teach creativity directly, but by providing guiding structures (Sawyer 2018, 154). The key elements on attempting to foster learners' creativity is offering them different possibilities, as following cite from the lecturer points:

> *Yes, I think it (creativity) can be taught. Well, our work is to introduce different techniques, by which they can develop their creativity. I would say, diversively introduce different techniques, by which they can proceed with their design process, and kind of find the very own view. --- a kind of artistic-technical approach is our major thing. That also all the technical details are taught via the artistic side, that those tasks are combined. (AML)*

The conception of creative learning, as well as creative teaching include the idea of offering possibilities for deeper learning and understanding, and by that, more creative learning outcomes. Sawyer (2016) defined creative learning being about 'to come up with things build on what you have learned, but that you have not been taught' (Henriksen et al. 2016, 16). The concept has also been split into categories of creativity-in-learning; related to development of personal understanding, and learning-in-creativity; related to how personal understanding contributes other group members' creative aims (Beghetto 2016, 8-9). Thus, socio-cultural factors combined with understanding domain-specific knowledge seems to be in complex interaction on the road towards creativity and inventions.

Project management

Taking responsibility of own project management is seen as a very important learning target, especially during the Master's programs. It also enables a chance to expertise, to deepen knowledge and find ones own personal ways of expression during the studying years. Learning to handle larger collections and projects is seen very important from the professional aspect. There must be careful planning for the scheduling of own work; arranging the needed materials, dedicating with reserved studio-working time, making numerous decisions concerning the project. The multi-modal process of design involves parallel working through conceptual reflection and material implementation (Kangas et al. 2011, 165). Several courses can be taken simultaneously targetting for one major goal. Students often attend on an advanced workshop-courses with their own-framed ongoing project, and concentrate on developing some specific part of it. They can also reserve time

for the personal tutoring with the teachers, as reflecting and feedback is concidered essential part of learning process. Group critiques are conducted, just likewise as in compulsory courses.

Individual design tasks are based on the concept research as well. The idea is in learning to construct and adapt previous knowledge during the proceeding studies and being able to handle larger processes consisted of smaller blocks. Studio masters' help is certainly available also for advanced students, but as studio masters' put it, they are often able to work very independently as they have already gained experience and deeper understanding about the materials, processes, systems and methods.

The understanding of design processes have been investigated by their linkage in embodied thinking (interaction of the body and mind during creative practices). For example, expert practitioners are able to imagine and predict the consequences of their actions, as they have assumed *tacit knowledge* (Polanyi, 1966) of their discipline. (Seitamaa-Hakkarainen et al. 2013, 10.) Consequences of the actions should be thought and imagined also from a larger perspective. Design studies are linked in wider contexts, meaning more than just integrating fashion and textile studies. Future professionalism is about working in the diverse field of design, co-operating with people from multidisciplinary backgrounds. Design thinking, with critical aspect in it, is needed in the world struggling with wicked problems. Combining and linking different skills, practices and ideas mean certainty of being capable of acting professionally with collateral projects. Many major fashion and textile –students attend on multidisciplinary courses, implementing their skills and knowledge into other disciplines. Innovations on the field of sustainability and the circular economy are increasingly appreciated. One example of the successful multidisciplinary project is The Global Change Award by H&M Concious Foundation in 2016.

Process management includes planning the timetables and well argumented project tasks. Being able to handle bigger entities requires a lot of self-directed work and decision making. During the studies, technical and creative skills are fostered through aiming innovative textile thinking. As textile design has been, but will ever stronger become involved with technology, it is seen necessary that the most current new technical possibilities are available. Some of the machines requires specifically educated studio

master or assistant to use them, and there can be overcrowding at the studios. Creating their own timetable and making reservations to certain machines forces students to keep on going with their projects and carefully attend the processes they are currently handling. The informants often remarked that students' devotedness is on high level in generally concerning their studies, and, for example, final critique-session deadlines are hardly never failed.

7.2 Requirements operating studio pedagogy

Planning the most relevant way to arrange high quality education is a process with many variables. Textile design education has gone through many renewings during the past ten years and curricula faced major changes in 2014. Pedagogical aims and practices were critically examined and reflected in relation to other design fields, multidisciplinary possibilities and chances to use textile knowledge in industrial field and as part of circular economy.

"The best education is grounded in good science. It is not based on opinion, tradition, or speculation but instead is drawn directly from the reliable information of empirical studies and the logical theories that take into account the empirical data" (Runco, 2010, 235). Following Runco's suggestion, Aalto ARTS wants to offer high-end design education, which is based on science, but also in socio-constructive and learner-centernes. Next, I summarize the findings of this study concerning multiple requirements of the arrangements providing purposeful, up-to-date, effective and creativity-oriented studio teaching.

7.2.1 Operational decisions

For this thesis, the administrative point of view can be regarded by the information gained from the Associate Professor in Design and Head of FaCT. There can be found numerous variables that must be concidered when operating studio pedagogy; issues linked in pedagogical visions, resourcing, environmental aspects and general organizational things. All content of the above categories are operated practically through sometimes complex administrative systems. Many challenges are faced and solved in order to get the whole puzzle working completely in practice. Next I describe the main two categories that pictures the leading concepts influencing behind educational decision-making.

Pedagogical balance

Learner-centered approach is in central role when pedagogical directions are discussed. Students for the BA program are selected via two-phase application process, in which applicants' capability to the discipline field is evaluated by the jury. At the beginning of the studies, everyone plans their personal curriculum. For the MA program the application system is different and the personal study plan is based on freely chosen voluntary courses. (www.aalto.fi) Although there are certain compulsory courses at the BA program, there is also lots of freedom. Students are encouraged to choose their own study path by giving them detailed information what kind of choises there are to be found. Students' decisions are discussed and reflected at certain points during the study. Different career opportunities are being recognized and introduced. International exchange-programs and various internship -periods at European Design-houses are in a remarkable role in learning experiences.

Collaborative projects with the textile industry are common, and offered as voluntary courses. The fashion industry is all about the system and different processes, and students are priviledged if they can cope with real work cases and engage with the projects that lead to concrete collections or innovations –or just conduct a meaningful learning process. However, pedagogical aims are always being emphasized in collaborations, as described by the informant:

> *…we try to approach the projects like…the pedagogical content is like this, and we want them to learn these certain things, and they can work very informal way, very experimental way, even if there is the specific (design) problem that the company has introduced us. That means, that the projects are not always commercialized at all --- our way of working is more like this; so if they want to renew their thinking, then they can maybe come to create something nice with our students. (KN)*

Focusing on learner-centerness is challenging from the resourcing aspect. One emerged inconvenience is not being able to offer as much contact teaching and instructioning that students are asking for. Teaching and studio personnel can also be rather busy when guiding students from other faculties; levels of the previous knowledge can vary a lot. Studio courses are intensive periods, and that sets certain kind of arrangements and

demands for effectiveness and proceeding. The benefits of the intensivity of the courses are, however, proved:

> *There is advantages and disadvantages when courses are short and intensive. It very clearly leads to better learning outcomes --- that you have usually only that one course at time, and you can concentrate on it and deepen it, that way you absolutely get the very best learning results, with the very strict module teaching. (KN)*

A problem with tight schedule occurs apparently, if someone involved happens to become ill, or something surprising happens. Therefore this teaching method can also be demanding. A kind of a positive phenomena –but on the other hand also challenging for the university– is the fact, that students would like to choose too many extra courses. Among the informant, the more is offered, the more is enthusiastically wanted. Sometimes students' motivation letters are demanded by the lecturers, because all the applicants simply can not fit in the course. At the studios, only certain amount of students can attend because of the methods practical limitations. It is obvious that letting students to choose too many courses beyond their own study curriculum, the consequence is that graduation efforts inevitably delay. Students are also helped to find suitable courses of their personal interests. Choosing more commercial way of approaching design, means choosing the courses that foster that kind of skills. Students need to be served with choises.

> *We really need to know what we are doing, in order to avoid driving the students to certain formula; that you have to learn this… meaning, if you are interested in that or that kind of things, the course dealing with those things is possible to find there… (KN)*

Future visions

After certain renewings in the curricula, textile design education has become highly appreciated at Aalto university and acknowledged also internationally through several award-winning collections. The "Fashion/Textile Futures" research group has been established, which focuses on future possibilities. International collaborations are increasingly cultivated. The role of research is a remarkable part of the strategical decisions. Education can be – and should be – transformed through new knowledge.

New research knowledge is beneficial and concidered necessary, while bringing new perspective to teaching methods and new pedagogical experiments (Niinimäki et al. 2018). In design field, even new professions has been emerged through the research, for example service design. Circular-economy and sustainability aspects have become very important topics. There is still a strong expressive and artistic side in textile design, as one of the trends seems to be consumers desire to look for the uniqueness and authenticity (concerning, for example, materials, details, manufacturing process) as important values in their textiles.

Design projects are ever more multi- or interdisciplinary oriented, and collaborations are common. Material scientists and textile designers and researchers are learning co-operation and successful projects have been introduced. There can be seen many potential applications of textile knowledge in the future. Sustainable design decisions are crucial when involved in proceeding new conventions linked in manufacturing or consumption of textiles. The designers role in sustainable development can be significant and a future-oriented approach may mean more being involved in the service design sector than in traditional product design, as there is vast pressure to decrease waste streams and change consuming habits (Niinimäki 2011, 89-90). In sum, designers are supported to gain systemic knowledge and improve the holistic approach to design tasks. New, more diverse design-field can be a director, when formulating new directions of different cultural actions for better world (Niemelä 2018, 85).

Strategical visions are always looking further into the future and educational decision-makers can face pressure about renewing conventions. The making of the educational policy naturally has its affects on local level practices. Students at Aalto university are considered as a ’game changers.’ A game changer is described as ’something or someone that affects the result of a game very much’ (www.dictionary.cambridge.org). The complicated world around needs innovators and creative thinking skills. Neither the designers are working from the same block as earlier times. As the informant reminds, the design field has crossed the boundaries:

> *The field of profession is renewing so fast, and yes, education should go ahead. One interesting phenomenon, which has been noticed over ten years ago is that from where-ever the designer graduates, he/she will not put a title on the business card*

'Textile Designer' or 'Industrial Designer', but they are all just designers. In a certain way the borders are crossed, anybody can be able to make anything. (KN)

Efforts towards the new practices challenge all the participants to learn from each other and keeping a respectful attitude during the processes, since learning cultures are versatile. Therefore, good interaction and engagement in projects, as well as criticality, are essential features in order to achieve high quality results. Networking is seen practically easier in the future when Aalto ARTS moves to the same campus area with the school of engineering sciences. The creation of the new working culture is seen as an essential aim for the future educators.

7.2.2 Studio Masters' role

Studio Masters, or Workshop Masters, are a crucial part of the studio pedagogy at the Aalto ARTS. There are five soft material studios available for all students and each studio is run by full-time studio master. In this study, I summarize results of the interview and the observation in three clusters that describe best the studio masters role. Guidance is linked to the students, planning is about co-operation with the teachers, and maintaining consists of the physical space related things and responsibilities.

Guidance

Guidance is about giving students helpful information and instructions as an expert of one's own professional field (weaving, knitting, fabric dyeing and printing, sewing and pattern making). Students need permission to work in the studios and everyone must pass the introduction course in order to use studios in the evenings and weekends. All the candidates must be taught to use the machinery and engagement in certain rules and manners must be accepted. Studio masters are arranging and running those courses. Beyond the ongoing courses and after certain basic courses, students can make experimentations anytime, on their own, if there is space and time available in the studio.

In general, guidance is helping students –as groups or individually– to produce appropriately their experimentations, prototypes or the collections. Mostly students need advice with the machines or knowledge about optional ways of making certain technically challenging detail. Studio masters give options but final decisions are always made by the student, as decision making is big part of designing after all. During the studio sessions,

masters are observing and monitoring, as well as offering instant help when needed. Some technical processes are done by the studio master, for example digital fabric printing or industrial knitting machine. There are situations especially with bigger groups, when studio masters are asked to help teachers at the class, for example in pattern making.

As observation indicated, guidance often means giving the specific material information. Among the studio masters, there is no proof that after the basic course all the details are learned and remembered. Sometimes worries can appear, if the extreme experimentations are done, as some material combinations are harmful for the loom and breaks the yarns, for instance. The creative process is expressed by the studio master as following:

> *...they are producing so much ideas, it is the essential point in studying these creative disciplines, so, there is lots of ideas, and they must always be helped to get forward with them, but how many of them (ideas) is truly realized and led to the goal, that is a different story. (TS)*

Often students come to the studio with their personal project and they are helped individually. The background of the students are different and there are various ways of approaching to ask studio master's help; detailed sketches or a fabric swatch. Studio masters are not necessarily aware of the whole processes of the students, but they need and want to be somewhat familiar with everyones intentions, as works should always have a linkage in studies. Studio masters' presence in critique sessions is not demanded, but they try to make it, as when seeing and hearing the complete outcomes of the projects, it surely helps to make developments concerning next studio courses.

Planning and maintaining

Planning is related to scheduling and organizing studio courses with the teachers in charge. Scheduling is one of the most challenging administrative task in studio pedagogy, as studios are open for all faculties of the design department. The studio courses are very popular and there are more and more enthusiastic students willing to take soft studio courses as a part of their curriculum, or just for extra interest.

A timetable is planned and fixed many weeks before starting the course. A significant amount of time is required, as the set-up of the looms are done in advance for the students and also because material deliveries take time. Warps are planned together with the

teacher. All course materials are delivered following the course teacher's instructions. In ceratin courses materials are delivered as well for students' own projects, therefore timing has to be right. Making quick material experimentations are challenging especially at the Woven Fabrics Studio. The warps are designed and set for the certain intensive course and it is obvious that in those warps spontaneous experiments will not be accepted. Thus one future challenge is how to offer low step approach to weaving, meaning that anyone interested could come and make a sample with the help of the master or the peers, even before the compulsory basic course. As far as weaving can be seen a creative investigation of materials and structures, there should be easy access to concrete making.

Especially during spring semester, looms and machines are in heavy use. Students need to produce then materials for their thesis- or the fashion show-collections. It is necessary that everyone is engaged to care about the general order and proceed with working, following the reservation system. Studio masters have several responsibilities, such as maintaining the machines and spaces in a good condition. They arrange possible repairing for the machines if they can not fix the problem by themselves. Materials and equipments must be delivered and kept in stock in order. At the Fabric Printing Studio, there are numerous chemicals, which need to be storaged properly and safely. Studio masters keep monitoring the space and in everyday-level. If something suspicious occurs, it can be usually fixed until the situation goes towards the wrong direction. No matter how detailed plans have been made, surprises are faced and ad-hoc situations appear.

7.3 Summary of the main findings

Concerning studio pedagogical elements at Aalto ARTS, the textile design course practices are most cultivating design assignments, which are based on the each student's own visual research and the concept. This method is seen as an individual guide to lead the student through the design process, in order to create innovative and novel textile collections. This ideation phase of the creative process is very focused and relatively lots of time is scheduled for that, as it is concidered the essential ground for the forthcoming process. Especially at the basic courses, such as textile material and structure, the research-based concept is examined within a given theme, but inside the theme, individual approach is obvious. When representing the collection for the final critique session, the style of artistic expression is free of choose. However, certain constraints are framing the assignments, as

that is found necessary and beneficial to handle the process and proceed with it. Students start to make material experimentations right from the very first courses, theory lectures are just a small part of the course and focused mainly on computer-aided programming. Mini-lectures are being conducted to offer necessary information about the practices with for example chemicals (needed in fabric printing or dyeing), technical methods or the machinery. Material knowledge including features, technical details of the structures, print or surface design elements are all taught and assumed simultaneously with material experimentations. This is found very effective and a learner-friendly way of teaching and learning. The final critique session and both individual and group tutorings are in important role. Students are encouraged to generate ideas together, learn and share ideas with each other, and keep up good group spirit while working. In general, the social and constructivist nature of the learning process is highly emphasized, as it is concidered to give better and more creative learning results. Creative process and project management skills are practiced in every course, whether the tasks are defined for achieving personal learning aims, or offering collections for the client from the industrial field.

The intensivity of the studio courses is proved to lead to the best learning outcomes. Enough time has to be offered to let students truly concentrate on the ongoing course; they can work every day at the studios during the intensive course. The rather short three to four weeks period of the course is also demanding in many other ways. It is possible to practice studio pedagogy only if the environment and studio set-up supports it. One of the most essential part of studio courses is the everyday help of the studio masters, who work fulltime on each studio. The studio masters' deep domain knowledge of their own discipline is necessary in order to complete technical side of the learning targets and keep studios in fuction in general. A lot of preparatory work must be done in advance, especially in weave studio, before starting the courses. That collaborative work with teachers and other personnel is mostly about scheduling, planning and work concerning, for example, the loom set-ups and material deliveries. Teacher's role at the studios during observations seemed to be mostly about giving information concerning the course assignment; its technical aims, clarifying the current design task and giving specific and detailed information how to proceed with the work on that day. Teachers also investigated solutions together with the learners if they had technical problems concerning their own specific aims. Students were guided individually, or with small groups, during the studio work.

In addition to proper learning environments and up-to-date facilities, studio pedagogy requires a great amount of pedagogical visions, strategies, engagement with the decisions, and careful resourcing. From the administrative point of view, studio teaching is a puzzle, that is challenging and rewarding at the same time. At Aalto ARTS, increasing focus is put on a collaborative projects with a multidisciplinary research-based aspect in mind. New research knowledge is essential, while bringing new teaching methods and new pedagogical experiments into practice.

Networking is seen crucial in the future, as creative industries need collaboration and design thinking from the new perspectives. Moreover, international stakeholders and educational partners are strongly involved in future visions. Internationality is present in studies along workshops with industry, exchange or internship periods abroad. However, no matter what kind of collaborations are practiced, the learner-centerness is always set in focus. That is also seen in the main idea of the design education; to offer possibilities, with which each student can find his/her own strenght and ways of practicing the design profession.

8 LIMITATIONS

The main focus of this study was to search for the pedagogical elements related to studio teaching in the faculty of Fashion, Clothing and Textile at Aalto ARTS. I also examined the pedagogical views behind those chosen practices. Another aim of the study was to look at the requirements that operating studio pedagogy demands from the administrative point of view.

The qualitative and ethnographic approach to this research was chosen in order to examine conventions of the certain, specific group and community of practice. As a characteristic to qualitative research, it does not aim to generalise the results, but to understand and describe the phenomena (Tuomi & Sarajärvi 2006, 27). The data was gathered mainly from semi-structured theme interviews. Interviewing is always based on language and interpretations of one's questions and answers. Semantic meanings of the words chosen are not unambiguous, thus the researcher's role interpreting the informants' answers is acquires sensitivity and ability to read behind the sentences. Kananen (2014, 150) notes, that the answers for researcher's questions consists also of nonverbal information, which is either noticed or passed without specific attention. The researcher should be aware of the small nuances of the informants speech.

The ethnogarphic approach requires constant reflection and the research process resembles hermeneutical cycle, in which the sediments of the phenomena are peeled and the kernel idea is tried to be achieved (ibid., 82). The researcher is the instrument of her/his study, and makes all the decisions concerning the research setting and analysing technique. The researcher finds and organises the results with the process based on her/his own pre-understanding and judgmentations. (Tuomi & Sarajärvi 2006, 102.) In this study, informants were chosen to be the best possible informants who are involved with the issues related to the research problem. All the informants represent the current staff of the faculty. There could have been also more informants but as a Master's thesis timeframes, some limits are needed to be set to arrange the research setting. Observation sessions were chosen of the available courses that were running or beginning at the time. Data from the observations concerns only that specific studio situations and settings, thus the notions can be analysed only from that context and they can not be transfered or generalized.

The analysis of the data is always dependent on the researcher. Here the aim was to find common manners that are conducted at the studio courses. The course practices can naturally vary at some points depending on the instructor. In this study, another informant as a teaching personnel has been a key person when designing and renewing the educational curricula at the faculty. This gives a chance to survey very personally analysed and experienced information of the pedagogical decisions, as the infomant has been deeply involved with designing and planning it from the start of the renewing process. Giving room to the informants thoughts and expressive talk gave rich and descriptive data about the topic, though the interview time was limited to one hour with each informant. All the informants had the questions in advance, which gave them a chance to look at or prepare somewhat with the interview issues. All the interviews were transcribed by the researcher, soon after conducting them.

Having previous knowledge of the topic is surely one thing that can influence the discussion flow and how the researcher (here also as a person who interviews) makes the interpretations and details her questions. Also when making the observations, the researcher's own knowledge and beliefs of the discipline can affect the way situations are seen or what kind of situations are especially focused on. When planning the research setting, the researcher already makes some own preferences (Hirsjärvi & Hurme 2009, 146). Furthermore, the research setting with the theories, concepts, and methods are always effecting to the results (Tuomi & Sarajärvi 2016, 98). Partly using the interview questioning derived from the creativity research and the theory of the studio model felt relevant and as actual perspective to the research problem. The questions were tailored to concern informants own field of expertise, as that is reasonable in order to gain more domain specific information and the points related to the research problems of the study.

Observations in this study were conducted in two different studios, taking a rather short period of time. Beneficial data, especially about the process as whole, would have be gathered by observing the whole intensive studio course from the beginning to the final critique. Also the possibility to observe closer the important ideation phase and scaffolding practices during concept-making process, would have offered very usefull data for this present study.

9 DISCUSSION

The focus of interest in this thesis was to examine pedagogical elements related to studio teaching and also conduct an overview of the requirements in order to operate it. Visionary and research-based pedagogy, resourcing, carefully scheduled teaching and up-to-date studio environments are the principles of operating studio pedagogy (Figure 2).

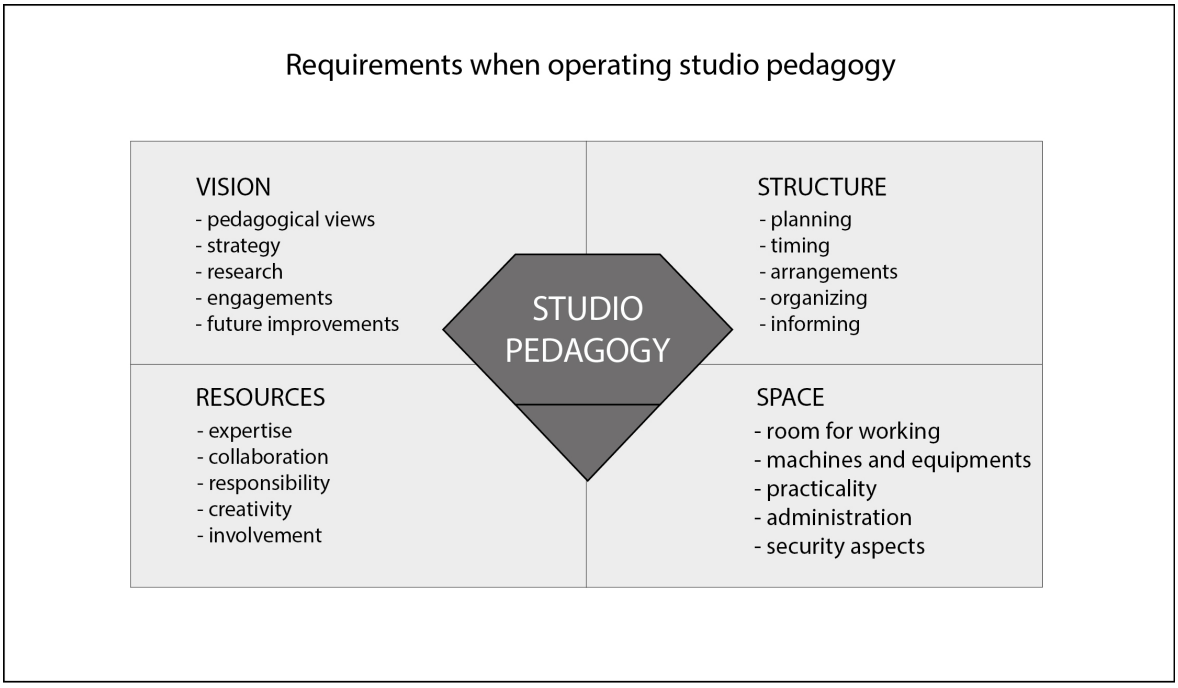

Figure 2. Requirements when operating studio pedagogy.

The context of the study was in textile design education, the studio method emerged at its most natural environment. Field of fashion and textile seems particularly suitable for studio pedagogical methods. Creativity-enhancing pedagogy is highly appreciated and encouraged at every levels of education at our times. Original fabric or clothing collections is one way to bring the abstract concept of creativity visible and tangible. In textile studios, there are rather low risk possibilities to provide studio teaching. Students can produce imaginary outcomes even without high-tech equipments or computer-aided programs. However, new technologies, bringing for instance smart textiles and wearable electronics increasingly approachable, inevitably also transform the textile design teaching. Within easier ways of networking and collaborating, learning practices might face changes. However, it is likely, that not everyone is willing to share their fragile ideas, as creative process can also be concidered very private and conflict-sensible process. Future research

could focus on students' or instructors beliefs about collective knowledge-creation activities, increasing collaborations or role of the digital applications concerning teaching or designing in general. A collective social process represented by social media, is seen a key driver of group creativity, possibly leading to collaborations and learning. (Henriksen & Mishra 2016, 115-17) However, the data collected for this study did not include mentions of social media at any phase, except one notion, that the role of visual images and certain aestehetics sometimes feels to be in more crucial position in the presentations, than the artefacts themselves or skills behind them.

Pedagogical views and practices in the studio method are related to the idea of fostering students' creativity and scaffolding their creative process in order to reach original design outcomes and offer good learning experiences. Keith Sawyer's (2018) research about teaching and learning creativity in schools of art and design proved that certain principles of aiming to foster students' creativity seems to be rather universal. His cultural model of teaching and learning; the studio model, shows, that creativity conceived as a process is the primary learning outcome and the assignments and classroom practices are designed to lead to mastery of the creative process. (Sawyer 2018, 165.) Sawyer's conception of creativity being a social and collaborative in nature includes the master idea about creativity emerging from the structured improvisation and creativity as acting and engaging with the world, not just being a feature inside the head or a habit of mind (Henriksen et al. 2016, 14-17). This kind of wide, socio-cultural approach to creativity offers a wide range of perspectives to examine creativity and compare different learning communities. In university education, where collaborations, networking and multidisciplinary projects are strongly emphasized, above kind of extended conception of creativity seems to be clearly present and valued.

When associated with studio practices, the question of creativity could be about constructing synthesis of personal conceptions, visions, values and other cultural aspects with the concrete materials at hand. As those elements are very abstract in nature, there must be tools to represent own visions and aims and also put them in frames in order to handle the process. In textile design, the strenght of the studio pedagogy and its award-winning outcomes are seen to be based on the individual conceptual work conducted in the ideation phase of the design process. This research-work presented as the visual concept, enables students to focus, to develop, and to be guided through the whole design process.

As many scholars have suggested, the certain constraints and frames are always present and essential in design tasks. External and internal constraints are present already in the ideation phase and they can act as a source of inspiration and a force of processing (Kouhia & Laamanen 2014, 16). When creating the concepts, students act like above; they are devoted to make research and find a personal, emotionally rewarding and a motivating way of direct and reflect their developing creative efforts. Currently studying in the FaCT at Aalto ARTS, Anni Isoniemi notes, that there is no shortcut to a successful outcome, but the work must be done; tons of research must be done and the background research combines thinking and designing in order to take anything towards a new direction (Korkman, 2018). The meaningful learning process requires intrinsic motivation, freedom to construct the design task setting, and find own ways of expressing. Taking these aspects seriously in pedagogical methods and arranging time to act for them, there is an obvious chance to see original and enthusiastically produced collections. Studio method adapted to other school levels and other disciplines would mean offering learners possibility to concentrate and make explorations at ease, aiming at the individual task, but working with supportive group of peers. The question can not be only about the newest digital applications involved in learning situations; learning-setting does not always have to be so complicated. Although self-directed work is emphasized for deeper learning, the instructors role as co-instructor of knowledge, scaffolding and helping learners to find focus can not be ignored.

The design process can be defined as multi-modal process which requires conceptual, practical, and materially embodied activities that support one another (Seitamaa-Hakkarainen & Hakkarainen 2000). The present study indicates that embodied thinking and materiality as a tool for thinking are inseparable in designing. By the studio method, technical knowledge seems to be easier to assume simultaneously by working with the authentic materials and solving the authentic problems. In textile studies, design work involves a lot of craft-based working, where the process-centerness is essential and creativity emerges through the complex and partly confusing set of trials and efforts, also including insights and hopefully joy of the *making* itself. Material experiments and testing seems to be performed ambitiously. Although weaving is a more time consuming techique compared to many others in the textile field, it has a unique quality on providing understanding of the structures and offering haptic knowledge to deepen the learning experience. Especially in the context of fashion design, studio pedagogy is found

extremely beneficial in gaining understanding not only concerning material knowledge, but also rediscovering the connections and relations of textile culture (Salolainen et al. 2018).

A remarkable observation from the data is the learner-centerness, which is also highly emphasized in operational decisions. Students are encouraged to find their strenghts and field of their personal interests during the studies. Study paths are designed and reflected together with the professors of the faculty. International networks are intentionally and increasingly created to provide, for instance, collaborative projects and internship periods with industrial stakeholders. Many graduates build a designer career abroad. This might arouse questions, whether this fact is attented on teaching. In general, a students point of view about the studio method, would be a reasonable topic for further studies, as this present study concentrated on pedagogical side.

Emerging fields of design work is seen to move its focus from designing products for users towards designing for a certain purpose; for example experiencing, emotion or sustainability (Kangas 2014, 78). In fashion and textile field, designing for purpose of the experience and emotion are very common already. However, visual and experience-based design is strongly affected by trends (Niemelä 2018, 84). In addition, or even instead of focusing visual aspects on designing, sustainability and efforts to design also sustainable production processes, are apparently going to be areas, of which future design innovations are valued for. Thus, creativity can be channelled also to the wider arenas, instead of business-oriented commercial agents. Pedagogical aims need to be evaluated over time and the research is concidered the key to exercise new practices. The systemic knowledge with innovative thinking is concidered the crucial combination of knowledge to be reached for. At the moment, after establishing many new practices in curricula, it seems like new textile design professionals are being educated by emphasizing collaborative knowledge-creation, resilience in front of the design problems and processes, and creative thinking at multiple fields of design.

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APPENDICES

APPENDIX 1.

Theme interview questions for Kirsi Niinimäki at Aalto ARTS. 11.1.2018 klo 9.00-10.00

Pedagogiikka:

1. Miten luonnehtisit Aalto ARTS:n Muotoilun laitoksen Fashion, Clothing and Textile design – koulutusohjelman pedagogiikan ydintä? (hands-on studio padagogy, practice based pedagogy…)

2. Tekstiilimateriaalien tunteminen ja käsittely/muokkaaminen ja valmistaminen kokonaan alusta on olennaista koulutusohjelman tavassa lähestyä suunnitteluprosessia. Kuinka opiskelijat näkemyksesi mukaan suhtautuvat tähän? Mitä tällainen metodi vaatii opiskelijoilta?

3. Mitä erityistä studio pedagogiikan toteuttaminen vaatii laitokselta ja opettajilta?

4. Monet kurssit voivat olla lyhyitä ja intensiivisiä. Mitä etuja tai hankaluuksia näet tässä käytännössä?

5. Kuinka taide/taiteellisuus näkyy opiskelijoiden luovassa prosessissa tai valmiissa työssä? Mitkä ovat luovan opiskelijan tunnuspiirteet?

6. Tekevätkö opiskelijat yhteistyöprojekteja yritysten kanssa? Yritykset aloitteellisia? Näetkö opiskelijoilla näihin projekteihin suhtautumisessa motivaatioeroja verrattuna kokeellisten omien mallistojen tuottamiseen?

7. Mitkä ovat tiivistetysti tärkeimmät opetuksen työkalut FCT-koulutusohjelmassa?

Koulutusohjelman kehittäminen:

8. Erityisesti tekstiilisuunnittelun koulutusohjelma (aiemmin siis erillinen) on ollut muutoksen silmässä. 2009-2010 tekstiilin kurssit vapautettiin myös kandiopiskelijoiden ulottuville. Edelleen 2011 tekstiilin maisterikurssit vapautuivat kaikkien laitosten suunnitteluopiskelijoiden ulottuville. Mitä muutoksia tehtiin opetussuunnitelman jälleen muuttuessa vuosina 2014-2016?

9. Miksi juuri tekstiilisuunnittelu nähtiin keskeisenä alana opetussuunnitelmaa muokattaessa?

10. Mikä mielestäsi ajoi muutostarpeeseen?

11. Millainen rooli opiskelijoiden ja opettajien näkemyksillä oli ops:n kehitystyössä?

12. Jos uudistuksilla oli kansainvälisiä tai tutkimuksiin perustuvia esikuvia, millaisia ne olivat?

13. Mikä on yhteistyön merkitys eri laitosten ja korkeakoulujen väillä nykyisin ja tulevaisuudessa? (Esim CHEMARTS, kansainvälinen oppilasvaihto…)

14. Mitä erityistä yhteistyöprojektit ovat mielestäsi vaatineet opetukselta? Mikä on parasta, mitä monitieteiset tai kansainväliset yhteistyöprojektit tuottavat?

15. Projektit, kilpailumenestys ja korkea sijoitus maailman design-koulujen listalla on huomioitu mediassa. Mitä mieltä olet Aalto ARTS -korkeakoulua koskevasta uutisoinnistayleisesti? Millaista uutisointia mieluiten näkisit tulevaisuudessa erityisesti omaa laitostasi koskien?

16. Mikä koulutusohjelmassa toimii nyt mielestäsi todella hyvin ja mitkä osa-alueet nousevat esiin edelleen kehitettävinä?

Oppimisympäristöt:

17. Miten uudet digitaaliset oppimisympäristöt ovat mukana pedagogiikassa?

18. Materiaalilähtöisyys (textile thinking) on muodostunut vaatesuunnitteluopetuksen tavaramerkiksi. Mitä erityisvaatimuksia se asettaa opetustiloille?

19. Millaiset työtilat ja työskentelyilmapiiri edistävät mielestäsi luovaa toimintaa?

20. Luonnehdi studiomestareiden roolia oppimisprosessissa ja oppimisympäristössä.

21. Mitä uusia mahdollisuuksia uudet toimitilat Otaniemessä tuovat mukanaan pedagogiikkaan ja sen toteuttamiseen?

22. Millaisia odotuksia muutto tuo tieteidenväliseen yhteistyöhön?

23. Jos saisit toivoa mitä tahansa lisää suunnittelijakoulutukseen (aineetonta tai konkreettista), mitä se olisi?

24. Suomalaisen suunnittelijakoulutuksen tärkeimmät arvot?

Muoti:

25. Kuinka muoti määritellään koulutusohjelmassa? (*Fashion, Clothing and Textile*) Mitä on muoti?

26. Muoti voidaan nähdä systeeminä, jota tietyt sisäiset kulttuuriset instituutiot hallinnoivat. Millaisten asioiden toivoisit saavan tulevaisuudessa sijaa muodin systeemissä ja miten koulutuksella voidaan mahdollisesti vaikuttaa?

27. Miten opiskelijat voivat Aallossa perehtyä esim estetiikkaan, taidehistoriaan tai esim tekstiilien, muodin ja käsityön kulttuurihistoriaan?

28. Miten tärkeänä näet, että lehtoreilla on omaa työhistoriaa muodin alalta?

29. Näkemykselliset ja ahkerat nuoret palkataan toisinaan kansainvälisiin muotitaloihin töihin. Mikä on mielestäsi perimmäinen tai selkein syy Suomessa koulutettujen suunnittelijoiden arvostukseen tällä hetkellä?

30. Millaisia mahdollisia vaikutuksia kilpailumenestyksellä tai median kiinnostuksella on yleisesti ollut opiskelijoihin tai opetukseen?

APPENDIX 2.

Theme interview questions for Maarit Salolainen 11.1.2018 klo 10.00-11.00 and Anna-Mari Leppisaari 30.1.2018 klo 9.00-10.00 at Aalto ARTS.

Luokkahuonekäytännöt:

1. Miten luonnehtisit Aalto ARTS:n Muotoilun laitoksen Fashion, Clothing and Textile design –koulutusohjelman pedagogiikan ydintä? (hands-on studio padagogy, practice based pedagogy…)

2. Miten opastaminen materiaalikokeiluihin käytännössä tapahtuu?

3. Miten reflektointiin prosessin eri vaiheissa kannustetaan? Millaista reflektointi on käytännössä ja miten se tapahtuu? (yksilöllisesti, ryhmänä, visuaalista, verbaalista, kritiikkitilaisuudet…)

4. Miten tarkkoja ohjeita tai neuvontaa opiskelijoille annetaan ja miksi niin? (tark. haluaisivatko opiskelijat nimenomaan tarkkoja ohjeita?)

5. Miten ohjaat opiskelijaa tehtävän rajauksessa ja sen ydinasian löytämisessä? (miten autetaan näkemään työn epäjohdonmukaisuuksia ja ratkaisemaan niitä)

6. Kumpaa ohjauksessa korostetaan; prosessityöskentelyä vai lopputulosta? Miksi?

7. Millainen merkitys opiskelijoille on tehtäviin ja prosessiin käytettävällä ajalla?

8. Millaisissa tilanteissa opiskelija kokee epäonnistuneensa ja miten asiaa käsitellään?

9. Millaisia käytännön haasteita tulee omasta näkökulmastasi vastaan, jos kursseilla on opiskelijoita muilta kuin tekstiilin/vaatetuksen alalta?

10. Miten varmistetaan, ettei opettajan oma esteettinen näkemys vaikuta opiskelijan työhön tai sen arviointiin? (tark. voiko sanoa esimerkiksi että pidän/en pidä tästä?)

Tehtävänannot:

11. Luonnehdi lyhyesti, millaisia tehtävänantoja käytät?

12. Millainen on riittävän avoin tehtävänanto, joka ruokkii nimenomaan prosessin kehittymistä? Miten opiskelijat johdatellaan pois mukavuusalueeltaan ja estetään takertumasta ensimmäiseen ideaan?

13. Suunnitteluprosessi harvoin etenee lineaarisesti. (On tehtävä paljon valintoja ja eteen tulee ennakoimattomia vaiheita ja suunnanmuutoksia.) Miten opettaja voi parhaiten auttaa opiskelijaa suunnistamaan ja etenemään prosessissaan?

14. Kuinka inspiraation etsimiseen ja ideointiin ohjataan?

15. Mikä on mielestäsi tehtävien rajauksen tarkoitus?

16. Millaisia ovat ensimmäisten vuosikurssien tehtävänannot, ja miten tehtävät monimutkaistuvat opintojen edetessä?

17. Rakentuvatko tehtävät siten, että jo opittua tekniikkaa voi hyödyntää seuraavassa tehtävässä, vai tavoitellaanko aina mahdollisimman uutta ja innovatiivista?

18. Onko projekteissa välietappeja? Kuinka usein niitä on ja mitä silloin käytännössä tapahtuu?

19. Kuinka tärkeää on ideoiden ja suunnittelufilosofian visuaalinen esittäminen? Entä lopullisten töiden/mallistojen esitystekniikka?

20. Jos opiskelijalla on jo vahva oma design-estetiikka ja tyyli, kuinka tällaisten opiskelijoiden kanssa edetään ja miten he suhtautuvat ohjaukseen?

21. Kuvaile, miten opetussuunnitelmauudistus on muuttanut omaa opetustasi.

22. Jos saisit toivoa mitä tahansa lisää suunnittelun opettamiseen liittyvää, mitä se olisi? Miksi?

Oppimistulokset (tavoitteet):

23. Mitkä ovat avaintekijät luovuuteen opettamisessa? Voiko sitä opettaa?

24. Mitkä ovat mielestäsi tärkeimmät syyt tähdätä tarkoitukselliseen luovaan ja kokonaiseen suunnitteluprosessiin?

25. Miten opiskelijat voivat oppia luovaa ongelmanratkaisua?

26. Miten opiskelijoita ohjataan kriittiseen ajatteluun, arvioimaan omia ja toisten töitä?

27. Materiaalilähtöisyys (textile thinking) on muodostunut Aallon suunnitteluopetuksen tavaramerkiksi. Mitä erityisvaatimuksia se asettaa opiskelijoille ja opetukselle?

28. Kuinka tärkeää on tekniikoiden ja käsitteiden oppiminen?

29. Miten digitaaliset työvälineet ovat mukana suunnitteluprosessissa? Miten ne ovat muuttaneet prosessin kulkua tai työstämistapoja?

30. Millainen on laadukas oppilastyö? Onko työskentelyssä aina tähdättävä korkeimpaan laatutasoon?

31. Millaisia tapoja on ohjata suunnitteluprosessin aikana opiskelijaa huomioimaan työnsä käyttäjä ja mahdollinen asiakas?

32. Miten määrittelisit *muodin* koulutusohjelman kontekstissa ja kuinka tärkeänä pidät muodikkuuteen tähtäämistä oppilastöissä? (tark. kaupallisuuden tärkeys?)

33. Kuinka taide/taiteellisuus näkyy opiskelijoiden luovassa prosessissa tai valmiissa työssä?

34. Miten opiskelijoita ohjataan yhteistyötaitojen ja kommunikointitaitojen kehittämiseen? Entä kansainvälisyyteen? (tark. mikä on mielestäsi parasta mitä monitieteiset tai kansainväliset

yhteistyöprojektit tuottavat?)

35. Millä muulla tavoin luovuus mielestäsi näyttäytyy koulutusohjelman sisällä, paitsi visuaalisissa ja teknisissä ratkaisuissa opiskelijoiden töissä?

36. Mikä voisi olla mahdollinen seuraava suurempi uudistus opetussuunnitelmassa? Mitä aiheita opiskelijoiden on välttämätöntä ottaa haltuun tulevaisuudessa?

APPENDIX 3.

Theme interview questions for Sari Kivioja and Tiina Saivo, 25.1. 2018 klo 9.00-10.00 at Aalto ARTS.

Studiokäytännöt:

1. Aalto ARTS:n Muotoilun laitoksen Fashion, Clothing and Textile design –koulutusohjelman pedagogiikan ytimessä on "hands-on studio padagogiikka". Kuvailisitteko, kuinka kurssit aloitetaan studiotyöskentelyn osalta? Millaisia käytännön asioita opiskelijoille kerrotaan ja näytetään?

2. Kuinka monta eri studiota opiskelijoiden käytössä on ja millaisia koneita studioissa on? (määrä)

3. Suorittavatko opiskelijat perehdytysjakson studion koneisiin/laitteisiin, ja miten se toteutetaan? Onko se samanlainen jokaiselle opiskelijalle pääaineesta riippumatta? Millaisia käytäntöjä erityisesti digitaalisten laitteiden kanssa on?

4. Miten luovaa prosessia tuetaan käytännössä studiotiloissa, esimerkiksi vapaan liikkumisen ja työskentelyaikojen suhteen?

5. Onko koululla materiaalivarasto ja kuinka sitä ylläpidetään ja käytetään?

6. Millaisia muita tarvikkeita koulu tarjoaa opiskelijoiden käyttöön, vai hankkivatko he kaikki tarvitsemansa välineet itse?

7. Miten studiotiloissa säilytettäviä materiaaleja voidaan hyödyntää inspiraationlähteenä tai työprosessien apuna?

Studiomestarin roolit:

a) yhteistyö lehtorien kanssa

8. Millaista yhteistyötä teette kurssien suunnittelun osalta lehtorien kanssa? (kurssien sisällöt, tehtävänannot, aikataulutus tms) Millä tavoin osallistutte studio pedagogiikan kehittämiseen?

9. Monet kurssit voivat olla lyhyitä ja intensiivisiä (neljä viikkoa). Mitä etuja tai hankaluuksia

näette tässä käytännössä henkilökunnan ja toisaalta opiskelijoiden näkökulmista?

10. Osallistutteko kurssien väli- ja loppukritiikkeihin ja jos, niin miksi se on tärkeää?

11. Millaisia eroja näette käytännön työskentelytavoissa eri lehtorien kanssa?

b) yhteistyö opiskelijoiden kanssa

12. Tekstiilimateriaalien tunteminen ja käsittely/muokkaaminen ja valmistaminen kokonaan alusta on olennaista koulutusohjelman tavassa lähestyä suunnitteluprosessia. Kuinka opiskelijat mielestänne suhtautuvat tähän? Mitä tällainen metodi vaatii opiskelijoilta? Arvostavatko opiskelijat mielestänne studiomestarien apua ja läsnäoloa?

13. Opiskelijan tekemä niin sanottu suunnittelukonsepti on tärkeä ohjenuora materiaalikokeilujen etenemisessä. Kuinka studiomestarit saavat tietoa näistä konsepteista ja opiskelijoiden tavoitteista?

14. Suunnitteluprosessi etenee harvoin lineaarisesti. Miten studiomestari voi parhaiten auttaa opiskelijaa suunnistamaan ja etenemään prosessissaan? Miten tuette opiskelijoita ongelmanratkaisutilanteissa?

15. Millaisissa tilanteissa opiskelija kokee epäonnistuneensa ja miten asiaa käsitellään?

16. Missä vaiheessa prosessia studiomestarin apua kaivataan eniten? Onko nähtävissä studiokohtaisia eroja?

17. Miten kandi- ja maisteriopiskelijoiden studiotyöskentely eroaa toisistaan?

18. Millaisia käytännön haasteita studiotyöskentelyyn sisältyy? Kuinka jaatte ajan ohjaamisen ja koneiden vaatiman huollon tms. kesken?

APPENDIX 4. Example of the course assignment for the Woven Fabric Design –course.

Kudottujen kankaiden suunnittelu – kurssitehtävä

Sisustus- tai vaatemateriaalimallisto tai molempia yhdistävä lifestyle-mallisto: Värimatka

Maanosaan, maahan, kaupunkiin... - Aasiaan, Afrikkaan, Eurooppaan, Etelä-Amerikkaan, Pohjois-Amerikkaan, Australiaan, Antarktiselle... Tee väri- ja kuviomatka jonkin maan tunnelmaan. Matkusta eri maiden ja maanosien väreihin ja kuoseihin. Mihin värimuistosi liittyvät, tuleeko mieleen värejä ja kuoseja matkoilta, kirjoista tai tarinoista? Onko sinulla voimakkaita värikokemuksia jotka liittyvät kaukomaihin ja niiden tunnelmiin?

Muodin opiskelija voi halutessaan liittää tehtävän tekeillä olevan mallistonsa teemoihin tai aloittaa sillä seuraavan vuoden malliston ideoinnin.

- Tee ideaplanssi valitsemasi maan väreistä, tunnelmista ja kuoseista
- Aloita ideointi planssisi pohjalta. Sukella valitsemasi maan väri- ja kuosimaailmaan
- Valitse lankoja ja värejä jotka sopivat valitsemaasi tunnelmaan ja jatka ideointia kutomalla
- Suunnittele annettuihin loimiin ideamallisto valitsemasi maan tunnelmissa
- Mallistosta tehdään toinen väritys, joka toteutetaan muokkaamalla kudottujen mallien värejä Photoshopilla, ja joka esitellään tulosteina
- Suunnittele ideamallistollesi kokonaisuuden tunnelmaa ja värimaailmaa tukeva esillepano ja säilytys sekä teknisten tietojen dokumentointi
- Liitä kokonaisuuteen kuva, jossa näkyvät malliston kankaat niille suunnitellussa käytössä
- Esityksen voi halutessaan koota portfolioksi

- Sisustusmallisto voi sisältää: esimerkiksi verhoilu- ja verhokankaita sekä huopa -ja mattomalleja tiettyyn tilaan suunniteltuna
- Vaatemateriaalimallisto voi sisältää: kankaita erityyppisiin vaatteisiin (takki, housu jne.) sekä materiaaleja asusteisiin kuten laukkuihin ja huiveihin
- Lifestylemallisto voi sisältää materiaaleja molemmista ryhmistä - esimerkiksi huopia ja huiveja

Kurssin aikana työstetään / Kurssin hyväksytty suorittaminen edellyttää:

- Värimatka-ideaplanssi
- Kudottujen kankaiden mallisto: 8 -10 kpl kudottuja, huoliteltuja näytteitä (korkeus n. 30cm)
- Toinen väritys mallistolle tulosteina
- Esittely / säilytystapa näytteille
- Jokaisesta malliston näytteestä tietokortti,jossa on valokuva näytteestä sekä näytteen sidokset ja tekniset tiedot ja kommentit (tehdään samon kuin Kudotut Kankaat-kurssilla)
- Esityskuva kankaista käyttötarkoituksessaan

Tehtävien tavoite:

- Tutkia kurssin aikana opetettavia rakenteita värillisiin loimiin kutoen ja eri kudemateriaaleja ja tiheyksiä kokeillen. Joka loimeen väh. 1 kokeilu/näyte (loimia on 70cm/loimi/hlö)
- Tutkia tehtävän lähtökohdan aihepiiriä: maan tunnelma värien, rakenteen ja materiaalin avulla ilmaistuna
- Tutkia kankaan rakenteen ja materiaalin suhdetta sen tuntuun ja käyttötarkoitukseen
- Tutkia väriä kudotussa kankaassa
- Tutkia värityksiä tekstiilikokoelmassa
- Kehittää omaa ilmaisutapaa sekä kudottujen kankaiden suunnitteluprosessin hallintaa
- Lisäksi jatketaan oman näyte- ja rakennekirjaston kokoamista

Arvosteluperusteet:

- Sidoksien ja sidospiirustusten ymmärtäminen
- Kudottujen näytteiden oivaltavuus
- Kokonaisuuden hahmotus ja selkeys
- Taiteellinen vaikutelma
- Värin käyttö
- Kehitys lähtötasoon nähden
- Näytteiden siisteys ja huolellisuus
- Aktiivinen osallistuminen opetustunneille

FIGURES

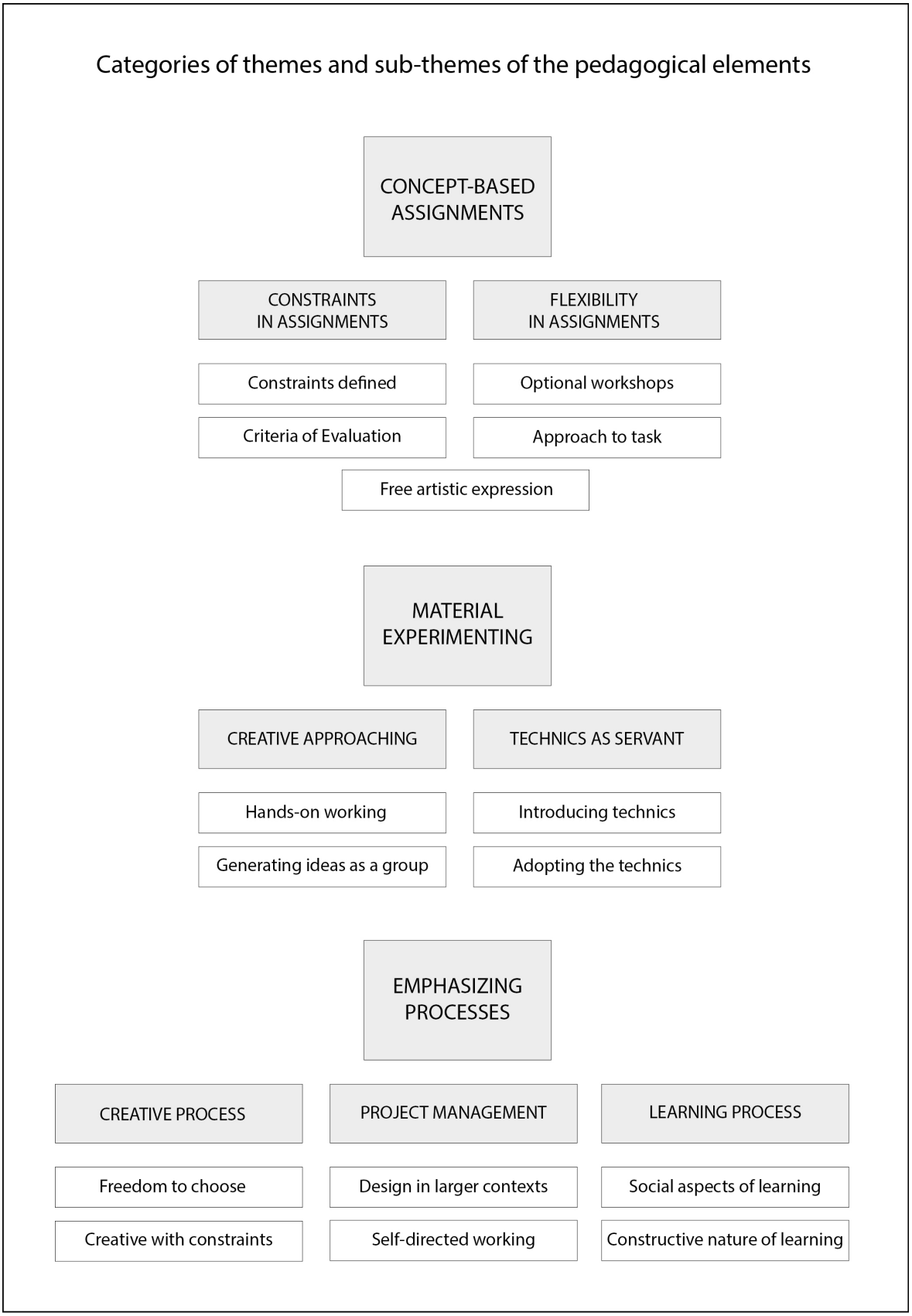

Figure 1. Categories of themes and sub-themes of the pedagogical elements

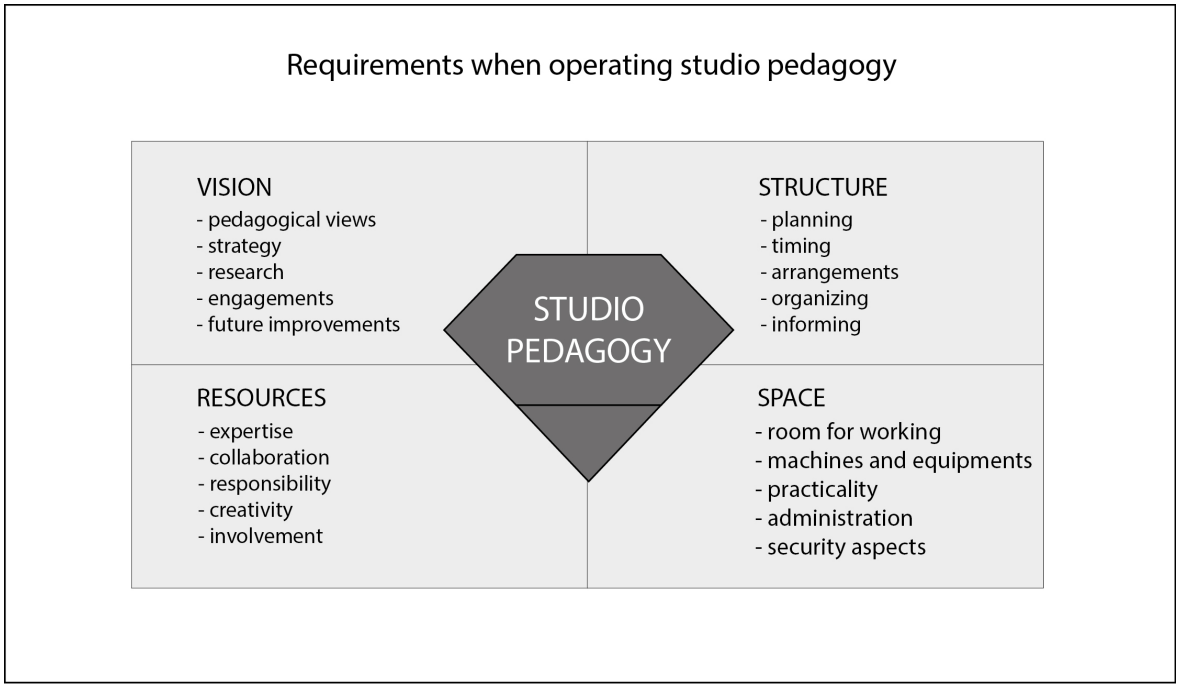

Figure 2. Requirements when operating studio pedagogy.

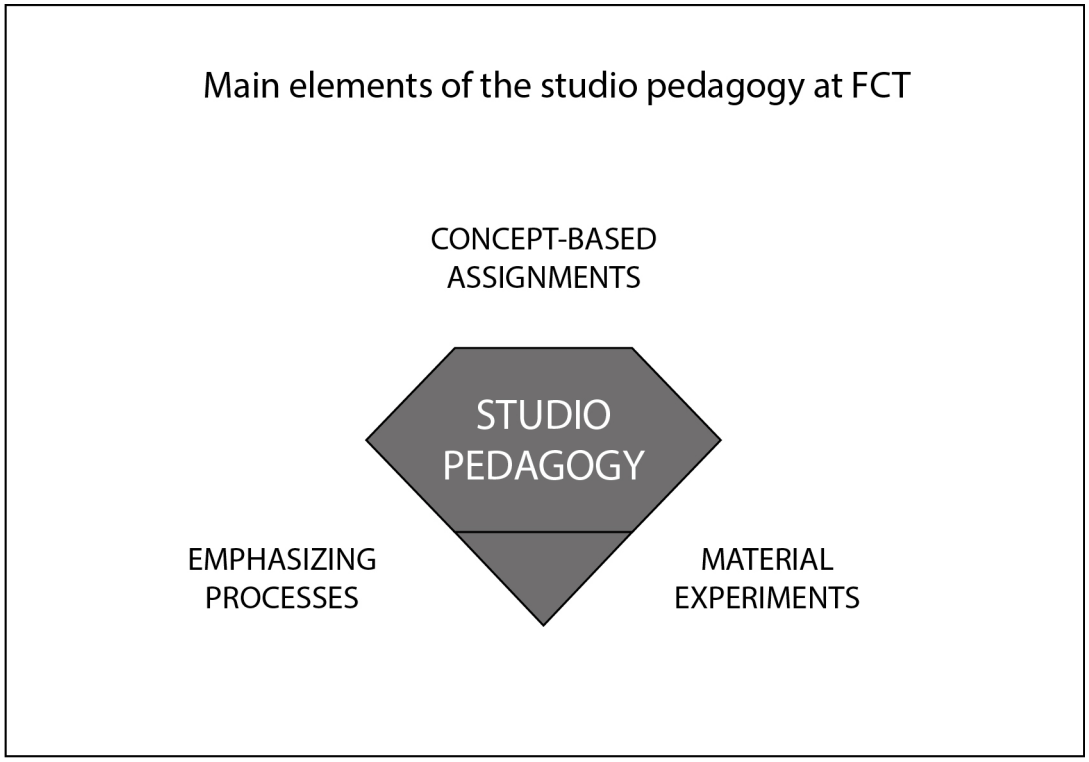

Figure 3. Main elements of the studio pedagogy at the Faculty of Fashion, Clothing and Textile at Aalto ARTS.